Hawaii Coastal Zone Management Program

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Shoreline Property Boundaries in Hawaii

SHORELINE PROPERTY BOUNDARIES IN HAWAII

By

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I. INTRODUCTION AND BACKGROUND

Introduction

The question of how far seaward the ownership of private real property extends in Hawaii has been much debated. Descriptions of the seaward boundaries of shorefront property, interpretations of these descriptions in shoreline mapping, statutory definitions of the shoreline in contexts other than the property boundary one, and court decisions, have differed significantly from time to time and place to place. This is hardly surprising. When the seaward boundaries of shorefront property, or makai boundaries as they will be referred to in this report, were first established, land did not have as high a monetary value as it does now. Various terms were used in the original descriptions of the makai boundaries, many of them were in the Hawaiian language, and many of those that were in the English language were ambiguous. In their translation and interpretation, there is ample opportunity for differences in opinion, and from time to time and case to case even the same terms have been translated or interpreted differently by the courts.

The makai boundary question is of obvious significance in the management of the coastal zone. The power of management of any part of the zone privately owned rests directly with the private owner. The power of management of any part lying seaward of the makai boundary of private land rests with the government. However, the significance of the question to coastal-zone management may be considerably smaller than would at first appear, because the use of land even if privately owned may be subject to extensive regulation by the government.

Among makai-boundary cases recently considered by the State Supreme Court those of Ashford (1968), Sotomura (1973), Zimring (1970a, 1970b, 1977), and Sanborn (1977) have been regarded as most significant. Subsequent to the Supreme Court decisions in Sotomura and Zimring, these cases were taken to the Federal District Court. The result of the Federal Court's consideration of Sotomura (1979) was essentially a rejection of the decision of the State Supreme Court, but in Zimring (1979), the Federal Court held that it lacked jurisdiction to consider the Supreme Court's decision.

I am by training a geologist and geomorphologist, and have had from childhood a special interest in shoreline morphology and processes. For a long time I have been concerned with the application of these topics in public decision making. I undertook the preparation of this report as a result of this concern, in the belief that there was need for a general review of principles applicable to the determination of the makai boundaries, particularly in the light of the number and importance of these recent cases. I had two aims. The first was to identify the issues that have been faced in makai boundary issues, the arguments that are pertinent to their resolution, and the desiderata that are reflected in these arguments. The second was to provide suggestions toward the resolution of the issues in the future.

The issues and arguments can be understood only in the context of the historical development of land-ownership and related concepts in Hawaii. Hence, in this first chapter, I present some historical background information. In Chapter II, I review in some detail the court decisions on the 4 major recent cases named above, and in Chapter III, I review in lesser detail the decisions in 16 other makai boundary cases. From these reviews I identify in Chapter IV, eight issues presented in the cases, and in Chapter V, I discuss provisions of the State Constitution, legislative statutes, and administrative regulations, opinions and practices that are pertinent to these issues.

In discussing the arguments in the cases, identifying the issues, and discussing the pertinent constitutional, legislative and administrative provisions it is possible to be reasonably objective, and I have attempted in the first five chapters of this report to be objective. However, in determining what desiderata apply to makai boundaries, it is not possible to be entirely objective, and in applying the desiderata to the issues considerable subjectivity is inescapable. I have not avoided subjective judgments in the last four chapters of the report.

In Chapter VI, I identify and discuss the desiderata. In Chapter VII, I discuss the makai boundary issues themselves and suggest how each is best resolved. In Chapter VIII, I discuss the meanings of terms that have been or may be used in describing makai boundaries and suggest how each should be interpreted. Finally in Chapter IX, I suggest legislative actions that would help resolve the issues.

As far as possible, I rely in these last four chapters on evidences of the rankings of desiderata in the court decisions on the makai boundary cases I have reviewed and on evidences of legislative and administrative intentions. There are, however, many inconsistencies in these evidences, and to be comprehensive, my suggestions have had to be based in many cases on personal opinion. As they relate to questions of law or public policy, as opposed to fact, my opinions merit no special consideration on the basis of my scientific training. Nevertheless, I trust that they will be considered on the basis of the rationale I present for them and will not be discounted simply because I have not been elected to help establish public policy or because I have had no legal training.

Background

Some understanding of the history of Hawaiian land titles, fishing rights, and cadastral surveying and tide gaging is essential background to the discussions of the makai boundary cases. The fishing rights are pertinent because they were originally considered appurtenant to the adjacent lands (or the lands appurtenant to the fisheries). Although land boundaries are definitions of the horizontal extent of lands, and tide gaging is concerned with establishing vertical relationships, tide gaging is pertinent because some land boundaries have been considered defined by the intersection of tide planes with the shore.

Hawaiian land titles

Titles to land in Hawaii have a unique character arising from the development of concepts of land tenure and ownership and of means to define the lands owned by various parties. Because of their unique character, the origin and nature of the titles have been the subject of many reports. This discussion is based principally on Kuykendall's (1953, 1957, 1967) authoritative history of Hawaii and on papers on Hawaiian land titles by Alexander (1882), Chinen (1958, 1961), and Cannelora (1974).

Governmental unification of the Hawaiian Islands, was achieved by Kamehameha the Great through conquest of all except Kauai. The king of Kauai paid tribute to the first Kamehameha, and Kauai became a regular part of the Hawaiian kingdom during the reign of Kamehameha II (Liholiho).

Prior to the time of the Kamehamehas, land tenure in Hawaii was feudal. All lands were considered the property of the moi (kings) and alii nui (high chiefs), and allocated by them to the lesser alii who in turn allocated them to the maka ainana (commoners). The

land allocations were at the pleasure of the kings, and those of lower rank had the use of the land on condition of tribute and service to those of higher rank. However, primarily through the influence of Kaahumanu, the principal wife of Kamehameha I who continued as Kuhina Nui (prime minister) after his death, there was no general reallocation of lands when Kamehameha II acceeded to the throne.

By 1838, during the reign of Kamehameha III (Kauikeaouli), the council of chiefs, including the king, had evolved into a body having legislative power. The next year this body issued "He kumu a me ke hooponopono waiwai no ko Hawaii nei pae aina" ("A fundamental law and the law regulating property," often referred to as the "Declaration of Rights and Laws"). The "Fundamental Law" was essentially a bill of rights. The law regulating property provided that tenants on the lands were no longer subject to arbitrary removal by the king or the chiefs and that property could be inherited. The rights and laws included in this declaration were repeated in substance and expanded in the first formal Hawaiian Constitution, that of 1840. This provided that the King held all lands, not as his private property but as belonging to the chiefs and people as well. Under it a legislative House of Representatives and a Supreme Court were created.

Like Liholiho, Kauikeaouli had allowed those who had been using certain lands to continue their use, and during his reign the old feudal system of land tenure was ended. After considerable discussion, it was decided that there were three classes of persons having vested rights in land, the king, the alii, and the hoaaina or tenants. In 1845-1847 the legislature passed a series of Organic Acts, the second of which, enacted 10 December 1845 and approved by the king early in 1846, established the basis for actual land ownership. This Act called for the establishment of a Board of Commissioners to Quiet Land Titles, referred to most commonly as the Land Commission, which was empowered to investigate and settle all claims to land acquired prior to the passage of the Act. Subsequent to confirmation of a claim and the issuance of a Land Commission award, and upon payment of commutation to the government, issuance of a Royal Patent by the Minister of the Interior was authorized by the Act. The Land Commission adopted certain principles based on previous land-use practice and statutory requirements and later ratified by the Legislature. One of the principles dealt with the matter of commutation to the government and another required that all claims to land acquired prior to the Act be presented to the Commission by mid-February 1845. Anticipating a wider distribution of land among private persons, the Commission decided that, if the king should "retain one third of the land for himself and distribute one third among the alii and the final third among the hoaaina, he would injure no one but himself." With this the king and the legislature agreed, but the principles of division between the king and the chiefs remained in dispute until December 1847 when they were settled by the Privy Council.

The actual Mahele, or division of lands among the king and the chiefs, was accomplished in less than three months, on 7 March 1848, and recorded in what is known as the Mahele Book. In the meantime, it had been recognized that a distinction was needed between lands owned by the king as a chief, and those held by the king as sovereign of the nation. Accordingly the day after the Mahele, the king surrendered about two thirds of his third of the lands to the public, as "government lands," retaining the remainder as "crown lands."

Although the lands identified and separated in 1848 were all subject to the rights of tenants, "koe na kuleana o kanaka," no provision was originally made for the formal grant of title to the tenants. In 1849 the Privy Council resolved that the tenants should receive title to their lands free of commutation, and formal provision was made for this in an act passed by the Legislature on 6 August 1850. Like the chiefs, the tenants were required to

present their claims to the Land Commission and receive awards from the Commission in certification of title.

The work of the Land Commission was essentially completed in 1855 and, as of the end of March in that year, the Commission was dissolved and its functions and records transferred to the Minister of the Interior.

The ownership of most of the major land divisions, the moku, which had been the domain of the high chiefs, was divided in the Mahele, but many of the largest subdivisions of the moku, the ahupuaa, which had been the domains of the lesser chiefs, were held more or less intact. The term konohiki, originally applying to the land managers serving the chiefs, became applied to the chiefs and to the lands retained by them. Other large land areas which lay within one or more ahupuaa, the ili, fell mainly to chiefs. The commoners received the taro lands (aina kalo) and other agricultural lands (aina kula) that they had cultivated for their own use, as well as their houselots (pahale). The term kuleana, originally referring to property rights, came much later to apply to these small land holdings.

Even among those who were entitled to the distribution of lands there were many who had failed to record their claims. Partly for this reason the Minister of the Interior was later authorized to make additional conveyances of title to government lands by sale at low prices. These conveyances and others authorized by law were termed Royal Patents. To distinguish them from the Patents on Land Commission awards, these later Patents came to be called Royal Patent Grants or simply Grants. These and other conveyances of land were recorded in a Bureau of Conveyances.

The constitution of 1840 was but the first of the Kingdom of Hawaii. The second was adopted by the Legislature in 1852, before the end of Kamehameha III's reign, with the king's concurrence. This constitution called for no significant change with respect to land ownership.

When Kamehameha III died in 1854, the crown and the crown lands passed to his nephew and heir Alexander Liholiho, who reigned as Kamehameha IV. Because some land supposedly distributed in the Mahele had still not been described in grants or deeds, an act was passed in August 1862 requiring that the boundaries of all the remaining lands be filed with a newly established Boundary Commission.

Kamehameha IV died in 1863 without an heir. His elder brother, Lot Kamehameha, was proclaimed king, with the title Kamehameha V, by the cabinet, the Privy Council, and the Kuhina Nui. Considering that the Constitution of 1852 was too advanced for the needs and the capabilities of the people, Kamehameha V in 1864 abrogated that Constitution and replaced it with a new one, on his own authority and against considerable opposition.

From the time of the Mahele the crown lands had been subject to conveyance by the king through what came to be known as Kamehameha Deeds. However, in 1865 the Legislature, with the approval of Kamehameha V, passed an act providing that the then remaining crown lands could not be alienated from the crown, but should pass to its successors for their support, and should be administered by a Board of Commissioners for Crown Lands.

The passage of this act was fortuitous because, near the end of 1872, Kamehameha V died without an heir, as had Kamehameha IV earlier. The next king, Lunalilo, was selected by popular vote confirmed by the Legislature. During his reign, and during the reign of his successor, Kalakaua, who was also elected, but by the Legislature

in 1874, there were no substantial changes in the provision for land titles, even though Kalakaua granted a new constitution in 1887 in response to popular pressure.

In spite of several extensions of the period for establishing claims to land under the Mahele, there remained in Kalakaua's time some unassigned lands. The question arose whether these should be considered crown lands or government lands. In 1888 the Hawaii Supreme Court ruled that these remained in the public domain as government lands (Thurston v. Bishop, 7 Haw 421).

On Kalakaua's death in 1891, his sister Liliuokalani was proclaimed queen. Her reign lasted only two years. It, and the Hawaiian monarchy, ended with a revolution resulting from an attempt by Liliuokalani in January 1893 to replace Kalakaua's constitution with a new one providing her with more authority.

Under the Provisional Government which served during the next year, the various functions of the Bureau of Conveyances, the Minister of the Interior, and the Crown Commissioners were continued. However, under the Constitution of the Republic of Hawaii, which was adopted by convention in 1894, the crown lands were combined with the government lands as public lands. Under the Republic, the equivalent of the former Royal Patent Grants were made as Land Patent Grants.

When Hawaii was annexed to the United States, title to the public lands was transferred in trust to the United States in accordance with the September 1897 treaty of annexation and the joint resolution passed by the U.S. Congress in July 1898. Two years later, under the Organic Act for the Territory of Hawaii approved in April 1900, the former duties of the Minister of the Interior were placed in a Commissioner of Public Lands for the Territory.

Problems with establishing title to lands, especially after they passed several times by inheritance from the original owners, and with establishing the boundaries of the lands, led the Legislature of the Territory in 1903 to establish what is now known as the Land Court. By application to and registration with the Land Court, a title to land might be quieted and its boundaries could be defined. The Land Court could validate forfeiture of title to one who met criteria for adverse possession. Otherwise, the Land Court had no authority to annul the original titles derived by Land Commission Awards, Royal Patents, Grants, or Kamehameha Deeds.

By an act of Congress approved in July 1925, certain of the public lands were set apart for administration by a Hawaiian Homes Commission for the benefit of descendents of the original Hawaiians.

Limited sales and exchanges of public lands for certain purposes were permitted under the Organic Act and the laws of the Territory (e.g. Revised Laws of Hawaii, 1955, Sec. 99-49).

Under the Federal Admission Act approved 18 March 1959, by which Hawaii became a State, the public lands (i.e. former government and crown lands), other than military reservations, other lands used by federal agencies, and the Hawaiian Homes Lands, were granted to the State. As provided by the State Constitution, the Hawaiian Homes Lands continue to be administered by the Hawaiian Homes Commission. The public lands are administered by a Board of Land and Natural Resources (Hawaii Revised Statutes, Chapter 171). A Bureau of Conveyances within that department records conveyances of all lands, public and private (HRS Chapter 502). And the system of Land Court

registration continues (HRS Chapter 171). Sales of State lands for certain purposes are permitted under the laws of the State (HRS Chapter 171, Part II).

Hawaiian fishing rights

Rights to fish along the coasts of the Hawaiian islands were originally considered, like the land-rights, to be subject to the king, and were controlled primarily by the chiefs. The 1839 law respecting property specified that near-shore fishing grounds were to be considered the property of the konohikis of the adjacent lands. A similar provision was incorporated in the Organic Act of 1846 and in later statutory codes where, however, it was coupled with a reservation of fishing rights to the tenants.

Overall sovereignty was, however, retained by the king, and the Privy Council resolved in 1850:

> That the rights of the King as Sovereign extended from high Water Mark to a Marine league to Seaward, and to all navigable straits and passages, among the Islands, and no private rights can be sustained, except the private rights of fishing, and of cutting Stone from the Rocks, as provided for and reserved by law.

The situation defined by the Organic Act of 1845-46 and the Privy Council resolution remained in effect through the remainder of the period of the Hawaiian Kingdom and the periods of the Provisional Government and the Republic. The Organic Act of the United States, under which Hawaii became a Territory, required that all fisheries in the Territorial waters, other than those of enclosed fish ponds, should be free to all citizens of the United States subject to private vested rights (Organic Act, Sec. 95). The Act required that claims to any private fishing rights be filed in a circuit court of the Territory, and authorized the Territory to condemn the rights, with compensation to the owners (Organic Act, Sec. 96).

Cadastral surveying and tide gaging

The following discussion of cadastral surveying and tide gaging is based principally on papers by Alexander (1889) and Lyons (1903).

The Land Commission of the Hawaiian Kingdom required that any claim for an award filed by a commoner under the Mahele should be accompanied by a survey and a map. The original surveys were by compass and chain. Initially the chiefs were not required to submit surveys--their claims being awarded by the traditional names of the ahupuaa, ili, or other land divisions. Not until 1862 did the Legislature provide that the boundaries of the lands of the chiefs be surveyed, and that the correspondence between the surveys and the traditional boundaries of the lands be verified by the Commission on Boundaries. No real attempt was made to correlate the surveys with each other, and most of the larger parcels of the chiefs' lands and the government and crown lands, remained unsurveyed except where these were later conveyed by grant or deed.

To reduce the confusion, the Hawaiian Government Survey was established in 1870 under the Minister of the Interior. Under this Survey was established a triangulation network to which, subsequently, surveys of individual land parcels had to be tied, so that in time the positions of all lands could be determined relative to each other. The correlation was promoted by the requirement that precise surveys be made of all lands

submitted for registration by the Land Court established under the Territorial Government.

Tide gaging was first undertaken by the Hawaiian Government Survey at Honolulu in 1872, but systematic tide gaging, even at Honolulu, did not begin until 1880. Elsewhere, tide gages were operated by the U.S. Coast and Geodetic Survey for brief periods in the 1910's and 1920's to establish tidal datum planes for the topographic mapping that was undertaken in the Territory by the U.S. Geological Survey. However, continuous tide gaging on Kauai, Maui, and Hawaii did not begin until about 1948, and there are no continuing tide gages on the smaller Hawaiian islands.

II. MAJOR RECENT CASES

In discussing the Ashford, Sotomura, Zimring, and Sanford cases I have found it expedient to present, in sequence, the considerations that they have received in each of the courts that dealt with them. My knowledge of their considerations in the lower State courts comes entirely, however, from the decisions (and dissenting opinions) published in the record of the Supreme Court (Hawaii Reports) and, in the case of Sotomura, the Federal Court decision. In my discussion of Sotomura, I have attempted to distinguish what I have learned of the original trial court considerations from the Supreme Court record from what I learned from Federal Court record by appropriate citations.

Citations to Hawaiian statutes referred to in the cases, if they are still represented in Hawaii Revised Statutes, are in the form of the initials HRS followed by the Chapter and section numbers. Royal Patent Grants are referred to simply as Grants.

Ashford

Circumstances

The Ashford case concerned the shoreline boundary of two shorefront parcels of land at Kainalu, Molokai, whose registration by the Land Court was sought by the owners, C.R. Ashford and J.B.S. Ashford. The lands in question were the makai portions of two Grants (Royal Patents 3004 and 3005), both issued in 1866. In the Grants, the makai boundaries of the lands had been described as running "ma ke kai."

Land Court considerations

The owners applied to the Land Court to register title to the lands in question in 1963. The only serious question addressed by the Land Court, or at least the only one appealed, was the exact meaning of the Hawaiian phrase "ma ke kai", which the parties to the case agreed might be translated "along the sea." The applicants held that the phrase referred to "boundaries at mean high water which is represented by the contour traced by the intersection of the shore and the horizontal plane of mean high water based on publications of the U.S. Coast and Geodetic Survey." To support their position the applicants called on a surveyor who testified in the Court that he had located the boundary on that basis the previous year.

The State objected to the applicants' interpretation of the boundary description and contended that "ma ke kai" meant at the "high water mark that is along the edge of vegetation or the wash of waves at ordinary high tide" a line that would be "approximately 20 to 30 feet above the line claimed by the appellee." (The intent was clearly inland, not above.) To defend its claim, the State called on James Dunn, the State Land Surveyor, and also kamaaina witnesses for the purpose of establishing, by reputation evidence, the location of "ma ke kai", and also the location of public and private boundaries along the seashore generally, in accordance with tradition, custom and usage in old Hawaii. The questions posed to the kamaaina witnesses along this line were objected to by the applicants and sustained by the court. However, the court allowed the witnesses to answer the questions, subject to the objection, so as to preserve the record for the purpose of appeal to the Supreme Court.

The Land Court ruled, in favor of the applicants, that the boundary was "at the intersection of the shore with the horizontal plane of mean high water."

Supreme Court considerations

The decision of the Land Court was appealed by the State to the Hawaii Supreme Court, whose decision was reached in 1968 (Ashford, 1968).

In the majority opinion, written by Chief Justice William S. Richardson, the Land Court had erred in sustaining objections to the reputation evidence that the State had introduced, and in its interpretation of the proper position of the boundary. According to the opinion:

> ..."ma ke kai" is along the upper reaches of the wash of waves, usually evidenced by the edge of vegetation or by the line of debris left by the wash of waves....

The rationale of the majority was that, when the Grants were issued in 1866, the U.S. Coast and Geodetic Survey tide data was not available, and the intent of the sovereign was indicated ancient custom, tradition and usage as to which evidence had been excluded by the Land Court. The majority opinion cited the statute providing for reliance on established Hawaiian usage as an exception to reliance on the Common Law of England, (HRS 1-1) and also several previous cases (including Pulehunui, 1879) supporting the use of reputation evidence by kamaaina witnesses in establishing what such usage had been. The majority held further that "Cases from other jurisdictions cannot be used in determining the intent of the King in 1866," and that "Property rights are determined by the law in existence at the time such rights are vested."

Justice Masaji Marumoto dissented and filed a long, detailed, and thoughtful opinion. He commented that "this decision is one that will 'count for the future,' " and quoted a statement by Cardozo to the effect that it is in cases such as this "that the judge assumes the function of a lawmaker." In this opinion he divided the State's arguments into three parts for rebuttal.

First, with respect to the argument that the King could not have known of the U.S. Coast and Geodetic Survey tide data at the time the patents were awarded, Marumoto pointed out (in addition to an identification of the wrong King by the State) that: i) the King did not personally award the Royal Patents in question; ii) although actual tide gaging had not yet commenced, there were reasons to assume "that by 1866 Hawaii had gained sufficient scientific information to know that tide levels could be determined..."; iii) there were reasons to believe that the intention of the Hawaiian Government was "to follow the prevailing law in common law jurisdictions and to locate the seaward boundaries of private lands at the line of ordinary high tide."

Second, Marumoto considered the argument relating to "the location of boundaries to ancient custom, practice and useage" to be irrelevant. He cited the Civil Code of 1859 to indicate that the Minister of the Interior, who was responsible, had authority to create titles to government lands subject only to express provisions in the law and "otherwise unshackled from the dead part of the past". Even if tradition, custom and usage were considered relevant, Marumoto held, "no weight need be given to the testimony of the State's witnesses in this regard." He cited three Hawaiian cases dealing with lands to which private title extended to low water mark (Haalelea v. Montgomery, 1868; Territory v. Liliuokalani, 1902; Brown v. Spreckels, 1902, 1906), and three more which he

considered to document usage contrary to that claimed by the State's witnesses (Halstead v. Gay, 1889; Pulehunui, 1879; and Koa v. Kaahanui, 1876). I will refer to these cases and Marumoto's discussions of them later.

Third, with respect to the State's argument relating to the practice of the government survey office, Marumoto:

i) pointed out that the State Land Surveyor had no personal knowledge of the practice prior to 1920;

ii) cited evidence that, even after 1920, the Survey Office used a debris line left by the ordinary high tide and not the extreme debris line left by the waves that wash up to the vegetation line during very stormy weather, and indicated that there was no evidence that the Office had ever used the vegetation line as the boundary before 1953.

iii) Demonstrated confusion in the majority opinion resulting from the Surveyor's testimony concerning the wave wash at low tide being higher than the mean high tide line.

iv) Distinguished (in his introductory remarks) between determinations of the makai boundaries of private lands and determinations by the Survey Office of the makai boundaries of government lands. The latter he considered might be arbitrary because the State also has dominion over areas extending seaward.

In his final arguments, Marumoto claimed that: "The historical materials referred to in this dissent show that there was nothing in ancient tradition, custom, practice, or mores which dictated the use of the vegetation line", and he quoted with disparagement part of the contrary testimony of one of the State's witnesses.

In his opinion: "...historically the common law concept of locating the high water mark along the level of ordinary high tide prevailed in Hawaii...Hence the real issue on this appeal narrows down to a definition of ordinary high tide." He stated that:

> For well nigh 50 years all three branches of the Hawaiian government, legislative, executive, and judicial, have recognized mean high water line as the location of the high water mark in situations involving private rights and not an intense problem in the administration of government lands.

In support of the latter statement he cited:

i) a 1932 opinion of the Attorney General indicating that the seaward boundary of private lands should be considered the line of mean high water mark and not the "uppermost reaches of the tides;"

ii) the Waikiki Beach Reclamation Agreement of 1928 which was made pursuant to a 1927 statute referring to the mean high water mark; and

iii) two cases in which the Land Court approved the location of the seaward boundaries of private lands along the mean high water line despite contest by the government, neither of which was appealed by the government. (Cass, L.C. Appl. 1225, decree entered 1940; Dowsett, petition for registration of accretion to land in L.C. Appl. 616, decree entered 1963.)

Sotomura

Circumstances

The Sotomura case concerned the makai boundary of a lot in Kalapana, on a rocky point just southwest of Kaimu Beach, in the Puna District of the island of Hawaii. The lot was owned by J.Y. Sotomura, G.F. Sotomura, and others, but its acquisition for use as a beach park was sought by the County of Hawaii.

Land-Court and pre-Land-Court considerations

In neither the State Supreme Court nor the Federal Court decision on Sotomura is there a discussion of the history of the ownership of the land in question prior to 1962, when, through Application 1814, the predecessors of the Sotomuras registered the land in the Land Court and obtained a Decree of Registration and Owners Certificate of Title (Sotomura, 1978).

The description of the shorefront boundary of the land in whatever document the land was first legally defined and assigned to private ownership, and the date of that document, would be of some interest. However, as will be shown later, the boundary recognized by the Land Court, or at least the natural feature that the boundary was considered by the court to follow, was regarded by the Federal District Court as res judicata, an issue settled.

Land Court Application 1814 covered three lots of Kalapana (Sotomura, 1973). Lot 1, the largest, lay inland of the Puna Coast Road; Lot 2 was the road itself; and Lot 3, the one of concern in Sotomura, was a narrow strip of land between the road and the shoreline. In Sotomura (1973), the description of seaward boundary of Lot 3 is quoted from the Land Court decree as follows:

> ...to a (triangle) cut in pahoehoe at high water mark at seashore: Thence following along the seashore in all its windings along high water mark, for the next four courses [whose azimuths and distances were cited] to the point of begining and containing an area of 5.314 acres.

This shorefront boundary had been fixed in 1959 or 1960 "with the approval of the State Surveyor...along the seaweed line, that is the growth of seaweed along the seashore" (Sotomura, 1978).

Trial court considerations

The County of Hawaii instituted proceedings toward the condemnation of Lot 3 in the Third Circuit Court in 1970. The previous year, in preparation for the proceedings, the county surveyor had resurveyed the boundary. However, on the basis of the Supreme Court ruling in Ashford a year earlier, the County surveyor laid the boundary out along a debris line, rather than along the seaweed or limu line.

In its review of the case, the Supreme Court (Sotomura, 1973) reported on the Third Circuit Court proceedings as follows:

> Court was convened at the subject property on November 8, 1971, for the purpose of inspecting the limu line, the vegetation line, and the debris line. Following this inspection, the court found that Lot 3 had eroded so that the seaward boundary was now further inland than the high water mark shown on the land court application. Agreeing with the county surveyor, the court applied the Ashford definition to locate the new boundary along the debris line.

According to the Federal Court (Sotomura, 1978):

> The testimony at trial established that the debris line...was approximately 27 feet inland from the seaweed line (and) the vegetation line...was found to be approximately 43 feet inland from the seaweed line.

The trial court did not consider that the Sotomuras no longer had title to all of Lot 3, but separated the lot into two parcels for valuation purposes. The court awarded to the Sotomuras the sum of $1.00 for the entire portion of the lot seaward of the debris line, and $1.20 per square foot for the portion inland of that line.

Supreme Court considerations

The decision of the trial court was appealed by the Sotomuras to the State Supreme (Sotomura, 1973). The majority opinion of the Supreme Court, written by Chief Justice Richardson, was in six parts, of which the first merely summarized the trial court's considerations and decision.

The second part recognized that, although the rules of the Land Court provided for the registration of title to accretion to previously registered land, no statute nor rule directly pertained to the situation if registered land were eroded. It called attention, however, to a statutory provision that registered land is subject to the same burdens and incidents as unregistered land (HRS 501-81). In the case of ocean-front property, in the opinion of the court, these burdens and incidents included erosion. The Court further referred to Castle (1973) a case in which it had:

> ...permitted the state to dispute the location of a boundary similarly described as "at high water mark" on the map accompanying a certificate of title, because a recent survey prepared by the state showed that "the present seashore boundary of these lots are further mauka (inland) than the high water mark shown on this map."

The following conclusions were reached:

> Our holding in Castle permits a court to determine questions of erosion in whatever form they arise. The trial court in the instant case could have suggested that the boundary issue be litigated in the land court before deciding the issue of valuation....The trial court was under no compulsion to do so, however. We hold that the questions of erosion and boundary location were properly before the trial court and now are properly before this court for review.

> The finding that erosion had occurred is a finding of fact that should not be "set aside unless clearly erroneous."

In the third part of the opinion, the question of the proper new position of the boundary was addressed:

> Having concluded that the trial court properly determined that the seaward boundary has been altered by erosion and the location of the high water mark has shifted, we now hold that the new location of the seaward boundary on the ground, as a matter of law, is to be determined by our decision in In re Application of Ashford, supra.
>
> The Ashford decision was a judicial recognition of long-standing public use of Hawaii's beaches to an easily recognizable boundary that has ripened into a customary right...Public policy, as interpreted by this court, favors extending to public use and ownership as much of Hawaii's shoreline as is reasonably possible.
>
> The trial court correctly determined that the seaward boundary lies along "the upper reaches of the wash of waves." However the court erred in locating the boundary along the debris line, rather than along the vegetation line.
>
> We hold as a matter of law that where the wash of the waves is marked by both a debris line and a vegetation line lying further mauka: the presumption is that the upper reaches of the wash of the waves over the course of a year lies along the line marking the edge of vegetation growth. The upper reaches of the wash of the waves at high tide during one season of the year may be further mauka than the upper reaches of the wash of the waves at high tide during the other seasons. Thus while the debris line may change from day to day or from season to season, the vegetation line is a more permanent monument, its growth limited by the year's highest wash of the waves.

The fourth part of the opinion dealt with the trial court's separation of Lot 3 into two parcels for valuation purposes, and with the awards to the Sotomura's for the loss of both parcels. Both decisions of the trial court were reversed. First, the area of the lot landward of the announced new shoreline boundary was held erroneous because the boundary should have been the vegetation line, not the debris line. Second, on the combined bases of the common law doctrine applying to erosion and the application of the public trust doctrine to lands seaward of the high water mark, the conclusion was reached:

> We hold that the land below the Ashford seaward boundary line as to be redetermined belongs to the State of Hawaii, and the defendants should not be compensated therefore.

The public trust doctrine referred to by the Court was one for which it found precedents in King v. Oahu Railway and Land Co. (1899) and in Bishop v. Mahiko (1940), namely that lands seaward of the high water mark are held in trust for public use.

The fifth part of the majority opinion dealt with the calculation of value of the part of Lot 3 remaining landward of the vegetation line, and the sixth dealt with instructions to the trial court to which the case was remanded.

In a minority opinion, Justice Marumoto concurred in and expanded on some of the points in the majority opinion. However, Marumoto pointed out that the seaward boundary of Lot 3 was not merely described in the Land Court decree as being along the high water mark "but was specifically located by metes and bounds. Thus, [he] read the holding to mean that the seaward boundary specifically delineated in the decree remained conclusive, until a change in the line was established by proof of erosion." He stressed that "A land court decree, which has not been appealed and has therefore become final, is res judicata."

Marumoto dissented from the holding in part III that the choice of a vegetation line over a debris line as the boundary was a matter of law, claiming that this holding was "plain judicial law as indicated by the fact that it was based explicitly on public policy, as interpreted by this court." He refrained from "an extensive dissertation against the holding, for to do so would be but an exercise in futility." A powerful reason for this appraisal was very likely his failure to convince the majority of the court in Ashford, as indicated earlier.

Federal Court considerations

The Sotomura's did not dispute the loss of land by erosion, but sought relief in the federal courts from the State Supreme Court decision that the seaward boundary of the land to which they had title was the vegetation line. A petition for a writ of certiorari was denied by the United States Supreme Court in 1974. The Sotomura's then instituted a suit in the Federal District Court for Hawaii. In the trial in this Federal Court, held before Judge Dick Yin Wong, the Sotomura's were the plaintiffs and the County of Hawaii and others the defendants.

In Judge Wong's decision, (Sotomura, 1978) the Federal Court held that: "The evidence leaves no doubt that the seaweed or limu line was the monument used [in the Land Court] in locating, on the ground, the high water mark by which Lot 3 was bounded by the sea...a line at an elevation just above mean high tide and...well defined by the growth of seaweed on the rocks within the reach of the waves." The court noted that "testimony proved that this shoreline could not have been eroded by natural forces to more than 3 feet inland in the nearly 20 years since it was first surveyed and marked for registration in the Land Court." (In actuality, the period was only the 10 years from the time when the original survey could have been made in August 1959 to the county's resurvey in 1969.)

The Court also noted that, subsequent to the appellate court decision, "nature has intervened with a classic case of avulsion. In November 1975, an earthquake caused the southeast coast of the island of Hawaii to drop varying distances into the sea. Lot 3 and nearby land sank nearly 2 feet."

In its conclusions, the Court stated:

> The protection afforded by the doctrine of res judicata includes the Land Court's identification and use of the seaweed line as the monument fixing the location of high water mark for the seaweed boundary of Lot 3.
>
> Res judicata applies even if a court subsequently adopts a different view of the law.

> Where the refusal of a state court to apply res judicata results in the direct, actual, and irreparable loss of property, that refusal must be said to be so fundamentally unfair as to abridge the owners' constitutional right to due process of law.

The Federal Court, therefore, granted an injunction against the defendants:

> ...permanently restraining them from claiming ownership or exercising possession or control of any portion of Lot 3 for which compensation has not been paid...Since Lot 3 did suffer erosion, the seaward boundary subsequent to erosion had to be determined by the trial court. That court should have used the same method of establishing the seaward boundary, which would have been the limu or seaweed line, or even the mean high tide. However,...in the absence of such a determination and in view of the fact that Lot 3 has since sank [sic] nearly 2 feet, for the purposes of this case it would be appropriate to accept the debris line as found by the trial court to be the proper seaward boundary of Lot 3 at the time it was condemned by the county of Hawaii. Accordingly, the compensation which must be based for the taking of Lot 3 shall be in accordance with the judgement of the Third Circuit Court...less nominal damages of $1.00 awarded for the portion seaward of the debris line."

Curiously, the Federal Court thus disregarded testimony that the debris line "was approximately 27 feet inland from the seaweed line" but granted the Sotomura's compensation for the area between the debris line and the vegetation line, "approximately 43 feet inland from the seaweed line" or approximately 16 feet inland from the debris line. As will be shown later, the pre-subsidence position of the upper line itself could have been estimated closely long after the subsidence had occurred.

Relation to Ashford

As noted above, the Ashford (1968) decision had been used by both the Third Circuit Court and the State Supreme Court as a basis for establishing the seaward boundary of the Sotomura land, although in different ways. There is considerable discussion of Ashford in the decision of the Federal District Court on the Sotomura case. This discussion is clearly dictum, and furthermore the court clearly distinguished the Ashford case from the Sotomura case on the basis that the latter concerned land that had been registered in the Land Court and the former had not. However, the Federal Court's decision in Sotomura clearly has some implications with respect to future reliance on Ashford.

The Court commented that: "at the time the Hawaii Supreme Court announced its decision in Sotomura all relevant precedent except Ashford...demonstrated that high water mark was to be determined by reference to the tides and that mean high water... was the accepted criterion." "Although there were differences of opinion as to which of the various tides fixed the high water mark, it was the tides, and not other criteria, which at common law determined the location of high water mark."

The Federal Court concluded that:

> While the majority [of the Supreme Court in Ashford] did feel that the words "ma ke kai" (along the sea), used in Royal Patents to the

> owners' predecessors in title, meant "along the upper reaches of the wash of the waves, usually evidenced by the edge of vegetation or the line of debris left by the wash of the waves," that statement must be considered to have been dictum. It was based on testimony which was excluded from the case, although perpetuated in the record as an offer of proof. The offer of proof, of course, was not subject to cross-examination or rebuttal evidence, and, in fact, would not have altered the trial court's decision. An appellate court cannot announce law, or rule on property rights, on the basis of evidence excluded by the trial court.

To a significant extent, the Federal Court's opinions concerning Ashford were based on references that seem to have been drawn from Liliuokalani (1902) and other testimony introduced in its hearing in the Sotomura case. Such evidence showed that:

> As early as 1901, both the government surveyor and the last queen of the Hawaiian monarchy had residences at Waikiki Beach with walls across their seaward frontages that were in the ocean, blocking public passage along the beach. Another Waikiki residence and the Moana Hotel also had portions of their structures similarly situated in the water. By 1928,...such walls were common along Waikiki Beach. They delineated the seaward boundaries of the abutting upland "along high water mark".
>
> There was also expert testimony from a title abstractor with 50 years experience that the monuments "sea", "seashore", "high water mark", "low water mark", "sea at high tide", "sea at low tide", "sea at very low tide" or equivalent expressions in the Hawaiian language were used to describe seaward boundaries, in both original title documents and subsequent conveyances. The same witnesses testified that monuments such as "debris line", "edge of vegetation", and "highest wash of the waves" were not to be found in these documents. No evidence or claim to the contrary has been offered or asserted in this case.
>
> This Court fails to find any legal, historical, factual, or other precedent or basis for the conclusions of the Hawaii Supreme Court that, following erosion, the monument by which the seaward boundary of seashore land in Hawaii is to be fixed is the upper reaches of the wash of the waves. To the contrary, the evidence introduced in this case, followed by both legal precedent and historical practice, fixes the high water mark and seaward boundaries with reference to the tides, as opposed to the run or reach of the waves on the shore. For example, on the island of Hawaii, the seaweed line was used to indicate the land of the high tides and high water mark.

Subsequent proceedings and current status

Because of the complicated nature of the case, the plaintiff, rather than the Clerk of the Federal Court, were to prepare the judgment. In December 1978, before the judgment was entered, Judge Wong died. Certain motions concerning attorney's fees and court costs were heard in March 1979 by a visiting judge, Stanley A. Wiegel, whose order

on the motion was filed in September 1979. The judgment itself was not filed until May 1980, by still a third judge, Samuel P. King. This judgment was, however, vacated by Judge King in August 1980, upon the plea of the State that it had not been aware when the judgment was filed and hence had not filed an appeal within the prescribed time thereafter. Essentially the same judgment was filed again by Judge King on 28 August 1980.

The only matters in the judgment that are of concern in the report are matters covered by Judge Wong's decision:

1. The manner in which the State directed that the vegetation line be used in locating the makai boundary of the Sotomura's Lot 3 constituted an unconstitutional taking of property.

2. The manner in which the Hawaii Supreme Court applied retroactively the Ashford standard for makai boundaries to the Sotomura makai boundary constituted an unconstitutional taking.

3. In failing to give effect to the Land Court Decree of Registration of Lot 3, the State, through its Supreme Court, deprived the owners of constitutional rights.

4. The Sotomura's were granted an injunction restraining the State and County from taking the Sotomura property without compensation in accordance with the judgment of the Third Circuit Court.

It is clear that the State plans to file an appeal to this judgment with the Federal Ninth Circuit Court of Appeals.

Zimring (1970, 1977)

Circumstances

The Zimring case concerns the makai boundary of two shorefront parcels of land on the southeast coast of the Puna district of Hawaii where the shoreline was advanced seaward by the emplacement of lava flows during the volcanic eruption of 1955. The parcels were covered by Grants No. 4139 to C.L. Wight and No. 4140 to H.E. Wilder. The southerly boundaries of the grants, "along the sea" (Zimring, 1970a), were defined by metes and bounds. The lava flows added about 7.9 acres of land seaward of these boundaries.

In 1960 the Zimrings obtained a deed to the two parcels from the then owners. The deed used the original metes-and-bounds definitions of the boundaries. "Upon obtaining the deed, the Zimrings entered upon the newly formed land, occupied the same, and made improvements thereon, upon a claim that their title extended to such land" (Zimring, 1970a). However, the State, claiming title to the new land, filed a suit in the Third Circuit Court to quiet the title.

First considerations by trial court

In the Circuit Court, the Zimrings moved for a summary judgment on the basis of an affidavit by a kamaaina witness, a surveyor who was born in Puna in 1952, had lived on the island of Hawaii all his life, and whose mother and hanai (adoptive) father had been

residents of that island during their life times. He deposed, in the light of his own knowledge and that which he obtained from his parents (Zimring, 1970a):

(1) That because of recurrent volcanic eruptions, the intent of a deed or grant to the sea-shore, and along such sea-shore, has always meant a perpetual grant along the sea-shore, wherever it may be, in order to give the abutting owner access to the products of the sea;

(2) that if new land is created which destroys the shore-line and creates a new shore-line, the abutting owner's right to his sea-shore boundary gives him the ownership of the new land;

(3) that if a volcanic eruption submerges land to create a new shore-line farther inland than before, the abutting owner loses such submerged land and owns to the new shore-line.

The court at first granted a motion by the State to strike the affidavit but then reconsidered, denied the motion, and entered a summary judgment in favor of the Zimrings. In response to the State's claim to title to the 7.9 acres of new land, the Zimrings made the two counter claims that: (1) they held title to the new land by adverse possession for more than 10 years; (2) they were entitled to damages against the State for trespass, desparagement of title, and interference with contract. These counterclaims were dismissed by the trial court.

There were two appeals to the State Supreme Court from the trial court decisions, one by the State from the denial of the motion to strike the affidavit of the kamaaina witness; the other by the Zimrings from the dismissal of their counter claims.

First considerations by the Supreme Court

On the appeal by the State, the Supreme Court ruled, in a decision written by Justice Marumoto (Zimring, 1970a), that the trial court had erred in denying the motion to strike the affidavit. The affidavit failed in the opinion of the Court to meet all the tests required of an affidavit in support of a summary judgment. Furthermore, the Court pointed out that there was indication in the affidavit that the Hawaiian usage which the affidavit claimed dated before 25 November 1892, the date of approval of the statute (HRS 1-1) which allowed the substitution of such usage for the common law of England. Summary procedures, the Court felt, represented "a treacherous record for deciding issues of far-flung import" such as represented in this case.

The decision of the Supreme Court on the appeal by the Zimrings was also written by Justice Marumoto. The Court considered that the propriety of the trial court's dismissal of the first Zimring counter-claim did not need to be ruled on because the title to the new land would be determined on the retrial on remand. The court noted that, if the title was with the State, the Zimrings could not obtain title by adverse possession, citing Kelly (1968). With respect to the second Zimring counter-claim, it was the Court's opinion that the circuit court erred in granting the motion to dismiss, because the dismissal would have foreclosed the Zimrings from asserting this counter-claim in case they prevailed on the issue of ownership.

Second considerations by the trial court

From its second consideration of Zimring, the Third Circuit Court made 14 findings of fact and came to 5 conclusions of law. The facts found (Judge Betty Vitousek in Zimring, 1977) were that:

1. The lava flow of 1955 had resulted in the extension of the land at the makai boundaries of the Zimring parcels.

2. The 1959 deeds of these parcels to their owners prior to the Zimrings defined the makai boundaries as along the high water mark or line of high water mark.

3. The 1960 deeds to the Zimrings defined the boundaries in the same way.

4. On several occasions beginning in 1961 the Zimrings had informed the State Department of Land and Natural Resources and Attorney General's office that they considered themselves owners of the lands to the then existing high water mark.

5. In October 1961, the State and Zimrings entered into a mutual deed, drafted by the State, to settle an issue concerning easements on the parcels. The deed stated that the Zimrings owned the parcel to high water mark. Attached to the deed was a sketch of the lands added by the 1955 lava flow. On this sketch the new land, where it abutted the Zimring parcels, was not distinguished from the Zimring land, but elsewhere it was labeled Government land. Although the State should have had knowledge of the addition of the new land, and gained an easement in the deed, the State remained silent as to any claims it had. Prior to that time the Attorney General had examined the Zimring's certificate of title, containing a description of a seashore boundary, and declared it satisfactory.

6. From 1961 on, the Zimrings were assessed and payed taxes on the parcels including the new lands.

7. From 1961 through 1965, the Zimrings planted trees and shrubs on the new land and had it bulldozed, believing there were no adverse claims to it.

8. In September 1964, the State and the Zimrings executed two more deeds, drafted by the State, to settle roadway disputes occasioned by the 1955 lava flow. Attached to these deeds were sketches identical to that attached to the deed of October 1961. Although the State received a land grant in these deeds it gave no indication of a claim to the new land.

9. The State's failure to assert claim in connection with the transaction and documents indicated in findings 5, 6, and 8, was inconsistent with the State's claim of ownership of the new land.

10. The Zimrings first learned of a possible State claim to the new land through a newspaper article published in May 1965.

11. Although the Zimrings then sought information from the State concerning its claims, they were not informed of these claims by the State until August 1968.

12. The seven-year delay by the State, after notice of the Zimrings claim, was unreasonable.

13. Hawaiian usage prior to 1892 was to give the owner of land along a seashore title to new land created by volcanic eruption along the original boundary. Between 1800 and the time of trial, 13 lava flows added land at the seashore. Only three of these occurred between 1846, when private land ownership was established, and November 1892. Of these, two added new land abutting private seashore lands. The flow of 1868 added land to a Land Commission Award granted in 1854. The boundary established by both the Boundary Commission in 1876 and the Royal Patent on the Award issued in 1877 followed the new shoreline, included the new land, and expressly indicated its newly created character. The flow of 1887 added land to a Royal Patent issued in 1861. There was no direct evidence of governmental action between 1887 and 1892, but a tax map indicated that the whole of the land including the new land was still considered privately owned at least to 1972. No evidence of personal knowledge of pre-1892 Hawaiian usage was presented, and no evidence of contrary Hawaiian usage.

14. Less directly, there was evidence of consistent indications, in the nature of Hawaiian land grants under the traditional system and in State surveys and tax maps to the 1960's, that Hawaiian usage was always to give lava-extended shorelines to the abutting seashore owner. Not until the mid-1960's did the State assert contrary claims.

The conclusions of law that the trial court drew were that:

1. It had jurisdiction in the dispute.

2. The State had failed to carry its burden of proof to establish its title to the new land.

3. Because of the State's unreasonable delay and the State's actions caused the Zimrings to believe that they were the owners of the new land, the State was precluded from asserting title to them as a matter of fairness.

4. In accordance with Hawaiian usage prior to 1892, the owner of the Zimrings parcels in 1955 gained title to the new land abutting the grants to those parcels that was created by the 1955 eruption.

5. By subsequent deeds the title passed to the Zimrings.

The trial court decision was appealed to the State Supreme Court in 1968.

Second considerations by the Supreme Court

The majority of the Supreme Court, in a decision written by Chief Justice Richardson, found that the trial judge erred in not quieting title to the new land in the State, and in granting title to the Zimrings. A minority opinion was filed by Circuit Judge Vitousek, who had replaced a disqualified justice. It is expeditious to present in juxtaposition the arguments of the majority and minority, sequentially, on each of the

trial court's conclusions of law, other than the first, with which the Supreme Court found no fault, and the last, which the Court rejected because it rejected the second, third, and fourth.

2. With respect to the conclusion that the State had failed to carry its burden of proof, there were three arguments based, respectively, on a) the principles of the Mahele and subsequent associated statutes, b) a principle of inchoate rights, and c) common law principles.

a) The majority agreed with the claim that had been advanced by the State that all private land ownership in Hawaii stemmed from Land Court Awards, Royal Patent or Land Patent Grants, or deeds issued by the sovereign, and that all lands to which private title had not thus been created remained crown or government lands that were subsequently combined as public lands. The new land created by the 1955 lava flow had not been awarded by the Land Commission, patented, or deeded by the sovereign to any private owner. Hence it was not subject to private ownership. The basis for this claim will be clear from the background discussion of Hawaiian land titles in this report, and from a later discussion of some of the provisions in the pertinent statutes. With respect to this claim, Judge Vitousek considered that the new land could not have been awarded by the Land Commission, patented, or deeded by any sovereign prior to its creation in 1955. She pointed out that none of the statutes being interpreted in the cases:

> ...announce any principle of law which would have application to lands created after their enactment. The Government's title to unassigned lands which were the subject of the cases cited above is derived directly from a Grant from the King. The Government received all the land not reserved by the King or successfully claimed by other individuals before the Land Commission. There is a fundamental difference between the proposition that the scope of the grant to the Government from its predecessor in title, the King, included all lands not reserved or claimed, and the proposition announced by the majority that the Government owns all lands, whenever created, to which there is no Land Commission Award, Royal Patent, Kamehameha Deed or other Government grant. The former proposition is supported by precedent and logic, whereas the latter is without precedent, as no Hawaiian case or statute, past or present, has been cited or discovered which even mentioned lands to be created in the future.
>
> It is a logical assumption that the engineers of the Great Mahele, aware of the fact of volcanic eruptions, were confident that any additions to the islands created thereby would be dealt with in a manner consistent with existing custom and usage and the principles of the recently embraced common law.

b) The issue concerning inchoate rights arose from the Zimring's claim that the State failed to show how it acquired a claim to the disputed lava extension from the federal government. In response to the State's argument that the acquisition took place under the Admission Act of 1959, the Zimring's argued

that the only lands passed to the State under that Act were lands that had been ceded by the Republic of Hawaii to the United States in 1898, and these could not have included lands not yet in existence.

The majority opinion of the Supreme Court, pointed out that what was ceded to the United States under the Joint Resolution of Annexation of 1898 was not merely land but "all other public property of every kind and description belonging to the Government of the Hawaiian Islands, together with every right and appurtenance there unto appertaining." Precedents, including that involved in the acquisition of the Louisiana purchase, indicated that this included inchoate as well as choate property.

The theory was set forth in the majority opinion that the right to future lava extensions was part of the inchoate property ceded by the Republic of Hawaii to the United States and transferred back to the State under the Admission Act.

Judge Vitousek pointed out that this theory had not been advanced by the State in the trial nor argued before the Supreme Court. She considered it a theory needing argument, in language suggesting that the United States Courts were the proper places for the argument.

c) The Supreme Court recognized that: "aside from the acquisition of documented title, one can also show acquisition of private ownership through operation of common law as provided by statute (HRS 1-1). It was the opinion of the majority of the Court, however, that under no common law doctrine could the Zimring's be considered to own the new land created by the 1955 lava flow. The Court considered that the only common law "doctrines which are even of conceivable application are those of accretion and avulsion." The Zimrings had recognized that the common law on accretion and avulsion in other states was not directly applicable. As the Court recognized, "no court sitting at common law [had earlier] had occasion to deal with the question of lava extensions. We understand this case to be one of first impression and are mindful of its potential impact."

With the claim of the Zimrings that "the logic of cases based on those concepts would lead to the rule that volcanic additions on the island of Hawaii go to the abutting owner" the majority of the Supreme Court disagreed.

The Court cited Hawaiian precedents, including Halstead v. Gay (1889), recognizing the doctrine of accretion, which it considered as "the process by which the area of owned land is increased by the gradual deposit of soil due to the action of a bounding river, stream, lake, pond, or tidal waters." And it recognized that: "the basic justification for a doctrine which permits a boundary to follow the changing stream bank is the desirability of keeping land riparian which was riparian under earlier facts." (The Court drew the foregoing quotation from R. Powell, Real Property, 1976.) However, the Court noted that:

> While the accretion doctrine is founded on [this] public policy, the law in other jurisdictions makes it clear that the preservation of littoral access is not sacrosanct and must sometimes defer to other interests and considerations...

> Likewise, in cases where there have been rapid, easily perceived, and sometimes violent shifts of land (avulsion) incident to floods, storms, or channel breakthroughs, preexisting legal boundaries are retained notwithstanding the fact that former riparian owners may have lost their access to the water.

The Court recognized that, although under a doctrine in which the makai property boundary would shift seaward with lava flow extensions, the owners of the abutting land would retain littoral access, they would also gain additional land, and that in some cases the additions might have many times the area of the lands to which they originally had title. The majority opinion raised the question: "If a littoral owner is to be thus compensated for lava destruction, should not an upland pasture or farm owner be also compensated with pasture of farm land for the destruction of what had been the chief attribute of his parcel?" It concluded that:

> Rather than allowing only a few of the many lava victims the windfall of lava extension, this court believes that equity and sound public policy demanded that [lava flow extensions] inure to the benefit of all the people of Hawaii, in whose behalf the government acts as trustee.

In her discussion of the third conclusion of law, Judge Vitousek pointed out that, prior to 1968 when the State prepared to bring the Zimring case to court, State maps had designated seaward extensions by lava flows in the vicinity as "lava accretions" and had distinguished the "accretions" that extending public lands from those that extended private lands. Nevertheless she recognized the fact that the new land abutting the Zimring's "was formed by one of the most violent and spectacular geophysical processes known: a volcanic eruption and ensuing lava flow," rather than by a process fitting the definition of accretion. She pointed out, however, that the policy underlying the doctrine of accretion, the retention of the riparian or littoral status of lands, applied also in the Zimring case, and that the majority of the court had not rejected the analogy between true accretion and lava extension, not because the analogy was non-pertinent or unreasonable, but because rejection was necessary to implement a policy which the majority considered worthy.

Judge Vitousek also argued that, under the common law on the construction of statutes, a discrepancy between a description by natural monuments and a survey is to be resolved in favor of the natural monuments. She pointed out that in McCandless v. Du Roi (1915) and in Sanborn (1977) (the latter a case that had just been decided by the Court), the Supreme Court had rejected survey boundary definitions that no longer fit the changed position of natural monuments. In Sanborn the Court had quoted with approval the statement in McCandless to the effect that it was customarily decided that the land boundary at a body of water is the margin of the body, not a meander (survey) line which approximately follows the margin. In the case of the Zimring land, she considered, the boundary should be that described by the natural monument of the high water mark which, after 1955, lay seaward of the position defined by pre-1955 surveys.

With respect to this policy, Vitousek pointed out that:

i) The public gained no more shoreline through the ownership of the new land, than it had held along the pre-1955 shore or would hold along the new shore in accordance with the decisions in Ashford (1963), Sotomura (1968), and Sanborn (1973);

ii) Although there is a paucity of land in Hawaii as recognized by the majority, the State was already by far the largest land owner; and

iii) If public policy required the acquisition of the new land, the State could condemn it.

With respect to this last point she raised the question whether the State's establishment of title to the new land without compensation did not constitute an unconstitutional taking.

3. The trial court's third conclusion, that because the State had delayed so long in bringing action against the Zimrings and had led the Zimrings to believe that they were the owners of the new land, is not of particular significance to this report.

In general it is significant to note that the majority of the Supreme Court considered that some of the findings of fact on which this conclusion was based were not supported by the record, and that the remainder were not adequate grounds for estopel, whereas Judge Vitousek recognized that the Zimrings' evidence as to these findings of fact had not been controverted. An additional point worth noting is that the only evidence addressed by the State to suggest that there was a question as to the "ownership of lava flow into the ocean" was a March 1931 internal Survey Office letter indicating that the government might be interested in a 1926 lava accretion credited to a private grant only because, before the flow, the land was used as the main government road in that vicinity.

4. With respect to the fourth conclusion of the trial court, that by pre-1892 usage, the Zimring's had gained title to the new land added by the 1955 eruption, the Supreme Court considered principally the facts concerning the lava flow extensions abutting private lands (in finding 13 of the trial court).

With respect to the 1868 lava-flow extension (near Kahuku), the majority of the Supreme Court questioned whether the Boundary Commissioner had the authority to include the new land with that previously awarded by the Land Commission, because the Boundary Commission was not entitled to alter pre-existing boundaries. They noted that the Commissioner had not explicitly recorded his reasons for relocating the boundary, but considered that the Patent of 1879 served as a just claim of the interest of the government in the new land. Judge Vitousek pointed out that by statute the Boundary Commissioners were required to "...endeavor...to obtain all information possible, to enable them to arrive at a just decision as to the boundaries..." (Act of 23 August 1862, Sec. 4). She also held that in accordance with the statutes respecting the applicability of common usage, the Commissioner "was actually recording an Hawaiian usage and establishing it as a precedent in Hawaiian real property law," pointing out that the 1868 flow was the first subsequent to 1846 that added new land abutting private property. "This was the first instance in modern Hawaii where a government official as part of his statutory duties was called upon to determine this question at an official adjudicatory hearing."

With respect to the 1877 lava flow extension, the majority of the Supreme Court considered its inclusion with the abutting parcel in tax maps subsequent to 1892 not conclusive to the private ownership of the new land. "The tax department," they said, "is in no position to adjudicate land titles and has no authority to award land on grant land patents." "The tax map treatment indicates only what the tax department assumed about the ownership of land." Judge Vitousek's discussion indicates her consideration that the Tax Office assumption was reasonable on the basis of the conventional governmental treatment of lava extensions.

As noted in the majority opinion, no evidence had been introduced concerning the pre-Mahele treatment of lava-flow extensions, but the opinion suggests that if such evidence had been introduced it would have been given little weight. It argued that practices developed before the Mahele, when the King held all land in trust for the people and there was need for self-sufficiency of the ahupuaas, were of little relevance in a private property regime.

In summary, the majority of the Court considered that the treatment of the 1868 and 1877 extensions insufficient to establish customary usage prior to 1892, and reversed the trial court's finding of fact 13. To this part of the majority opinion, Judge Vitousek specifically dissented.

Considerations by the Federal Court

Following the State Supreme Court decision, the Zimrings moved for a rehearing. This motion was denied in 1978, whereupon the Zimrings sought relief in the form of a suit against the State in the Federal District Court. This suit was heard and decided in 1979 (Zimring, 1979).

The Zimrings sought a judgment that the State had taken their property without just compensation and should either quit-claim the lava extension to them or award them a sum that they considered its fair market value. They alleged that the Supreme Court decision and its implementation had: (i) violated procedural due process; (ii) impaired contractual relations protected under the national Constitution; (iii) violated the Admissions Act of 1959 and the Treaty of Annexation of 1898; and taken their property without just compensation in violation of the Fifth Amendment of the national Constitution.

The State moved for dismissal of the suit.

In the opinion of the Federal Court the suit was, in essence, an appeal of the State Supreme Court's 1977 decision rather than an original action, and hence that the issues should have been pursued by writ of certiorari before the U.S. Supreme Court. However, the Court recognized certain similarities to Sotomura and also to a major Hawaiian water-rights case, in both of which the Federal District Court had reviewed State Supreme Court decisions.

Whereas in these earlier cases the State Supreme Court decisions had dealt with matters not originally at issue and not addressed in the lower courts, the Federal Court held that in Zimring the issue of title to the lava extension had always been central, and hence that the due process question that was raised in the earlier cases did not apply to Zimring.

The Federal Court cited precedents indicating that the Constitutional protection of contracts did not apply to judicial decisions.

The Federal Court considered that the State Supreme Court was entitled to construe federal laws and treaties bearing on state substantive law, and that if the plaintiffs considered that Court's construction with respect to the retention of inchoate rights by the government to be erroneous, the proper forum for further consideration of the issue was the U. S. Supreme Court.

With respect to the Fifth Amendment issue, the Zimrings claimed, as they had in the State courts, that by concepts accepted before the Supreme Court decision, they owned the lava extension to their land. However, the Federal Court did not consider that Zimring (1977) represented a "sudden, unforeseeable shift in Hawaii's land laws." It recognized that evidence of such drastic changes in the form of reversals of judicial precedent had been found in Sotomura and the water-rights case. However, it held that, "in stark contrast, neither 'all relevant precedent' nor 'decision after decision' established that the lava extension belonged to the abutting landowner. Rather, as the Hawaiian Supreme Court noted, the question was one of first impression for a court sitting at common law."

Hence, the Federal Court granted the State's motion to dismiss the case. The decision was not appealed by the Zimrings.

Sanborn

Circumstances

The Sanborn case concerned the makai boundary of a beach lot at Hanalei, Kauai, owned by W.F. Sanborn, to which title had been registered in the Land Court in 1951. In accordance with county regulations implementing the State shoreline setback law (HRS 205-31 to 205-37), Sanborn or his heirs were required to submit to the Kauai County Planning Department a map of the property certified by the State Surveyor when they applied to the County for permission to subdivide the lot into two smaller lots. When the State Surveyor refused to certify a map prepared by the Sanborns, they sought recourse in the Land Court.

Considerations in the Land Court

The recourse sought by the Sanborns was in the form of a new Land Court Application.

Under the 1951 decree of registration, the boundaries of the Sanborn lot had been described by azimuths and distances except as it was indicated that the second course terminated "at high water mark at the seashore" and the third course was described as "thence following along high water mark at seashore, the true azimuth and distance being 221° 39' 30" 233.36 feet."

The map submitted to the Land Court with the new application showed the survey line and also a line 40 to 45 feet seaward that bore the identification "edge of vegetation and debris line."

Extensive testimony indicated that, although there had been no permanent change in the position of the beachfront at Hanalei, that beachfront was subject to considerable seasonally reversing shifts in position. The Court concluded that the most likely explanation for the discrepancy between the survey line and the vegetation line was that the survey line followed the high water mark (debris line?) at some time during the summer season, while the vegetation line corresponded with the "upper reaches of the wash of waves" during ordinary high tide during the winter season, when the waves are further mauka (inland) than the highest wash of waves during the summer season.

The Land Court issued in June 1973 a decree ordering the State Surveyor to certify to the Kauai Planning Commission a map on which both lines were shown, but denied legal significance to the vegetation line, finding instead that the makai boundary of the Sanborn lot was fixed by the survey line described in the 1951 decree.

The 1973 Land Court decree was appealed by the State Surveyor to the State Supreme Court.

Considerations in the Supreme Court

The Supreme Court decision (Sanborn, 1977) was written by Chief Justice Richardson. This decision indicates that the State argued that the makai boundary of the Sanborn lot was the vegetation line, and that the Sanborns argued that the boundary was the survey line. The States argument was based on Sotomura (1973). The Sanborns' argument was based on HRS 501-71 which provides that Land Court decrees "shall bind the land and quiet the title thereto...conclusive upon and against all persons, including the State..."

The Supreme Court decision was as follows:

> We hold that, regardless of whether or not there has been permanent erosion, the Sanborns' beachfront title boundary is the upper reaches of the wash of waves. Although we find that the State is bound by the 1951 decree to the extent that the decree fixes the Sanborns' title line as being "along the high water mark at seashore," we also find that the specific distances and azimuths given for high water mark in 1951 are not conclusive, but are merely prima facie descriptions of high water mark, presumed accurate until proved otherwise. The evidence adduced at trial below established that the 1951 measurements do not reflect (and given the lack of permanent erosion, probably never reflected) the upper reaches of the wash of waves. Rather, the trial court made the finding of fact that the "vegetation and debris line" represents the upper reaches of the wash of waves. Such finding was not clearly erroneous. Accordingly, the "vegetation and debris line" represents the Sanborns' beachfront title line.

The Court cited two mainland-state cases indicating that the binding effect of the registration of lands in systems like that of Hawaii is not absolute. In one case a decree of registration was set aside because it had been obtained by fraud. In the other it was set aside because it covered shallow submerged land that, by law and public trust policy, should not have been considered subject to private ownership. The Supreme Court recognized that it had relied on the public trust doctrine in reaching its decision in Sotomura, and it referred in a footnote to the case of King v. Oahu Railway and Land Co. (1899) on the applicability of this doctrine. However, the Court resolved the argument in Sanborn "under more limited principles": (1) that in construing land court decrees, as in construing written instruments generally, natural monuments such as "along high water mark" control over distances and azimuths and (2) that the true measure of high water mark in this jurisdiction is the upper reaches of the wash of the waves.

As precedent for the first of these principles, the Court cited (McCandless v. Du Roi, (1915) in which it had decided that, in the case of an inconsistency in a boundary description "course and distance will yield to known visible and definite objects whether

natural or artificial." The second principle was, of course, consistent with the decision of the same court in Sotomura, which in turn was in part a further specification of its decision in Ashford.

The Sanborn's had argued that fixing the makai boundary at the vegetation line, seaward of the survey line, would constitute an unconstitutional taking of private property. However, having considered the high water mark rather than the survey line the proper boundary, the Court went on to recognize that:

> As of 1951, neither the Hawaii Supreme Court nor the Hawaii Legislature nor Congress had defined high water mark for this jurisdiction and thus there was no legal definition upon which the land court and the Sanborns could rely.

In a document accepting under protest the survey line used in the 1951 decree, Sanborn had recognized that "high water mark varies from season to season." The Court considered that the high water mark, defined as equivalent to the vegetation line; lay "within the range of normal seasonal fluctuations which application Sanborn conceded to be proper occasions for revision of the land court decree."

The Court therefore reversed the judgment of the Land Court. In its synopsis, the Court expressed its opinion on the identification of the makai boundaries of lands like the Sanborns' as follows:

> The line of high water mark for property registered in land court, as for unregistered property, is the upper reaches of the wash of waves, regardless of whether or not a prior decree of registration purports to describe a different high water mark, and regardless of whether or not there has been permanent erosion subsequent to the prior decree.

III. OTHER CASES

In the State Supreme Court majority and minority opinions in the Ashford, Sotomura, and Zimring cases, in the Supreme Court's decision in the Sanborn case, and in the Federal District Court decision in the Sotomura case, there are citations to about 50 other cases that the writers of the opinions considered pertinent. About 30 of the cited cases were Hawaiian cases. Several of these and a few others were cited in newspaper articles by Houston (1953, 1954) dealing with makai boundaries that I will discuss in Chapter IV. Of the various cases, several were cited for precedents other than those bearing on the determination of makai boundaries. However, it is clear from the discussions of the cases in the published record of the Supreme Court (Hawaii Reports) that 16 of them dealt with issues concerning makai property boundaries (or in one case a boundary along a ditch), or at least the ownership or rights to use shorefront lands.

Seven of the cases had been considered by the Court when Hawaii was governed as a kingdom (1778-1893), none while it was under provisional government (1893-1894), and none while it was an independent republic (1894-1898), but one in the interval while the government of the republic was continued after annexation to the United States but before the Organic Act was passed (1898-1900), five while Hawaii was a territory (1900-1959), and two since it became a state.

Although makai property boundaries were not actually at issue in all of the cases, all 16 are reviewed here. In addition two more cases are referred to that did not reach the Supreme Court.

Haalelea v. Montgomery (1858)

The case of Haalelea v. Montgomery (1858) concerned the ownership of a reef area lying seaward of a parcel of land at Puuloa, Oahu, and rights to fish in the reef area. This parcel had been a part of the ahupuaa of Honouliuli, which had apparently come into possession of high chief Kekauonohi in the Mahele. In 1849, the parcel had been deeded by Kekauonohi to Montgomery. The deed to the parcel was in Hawaiian and English. In the English version the boundary was described as running along the side of three fish ponds "to open sea, thence following the edge of the sea (reserving all of the reef in front) to end of stone wall by sea", and thence inland.

The defendant claimed ownership of the reef, considering that the edge of the sea meant the edge of sea water at the outer edge of the reef. Although, the ahupuaa had included the reef area, the court rejected that claim of the defendant. However, the Court noted that the ownership of the reef by the konohiki of the ahupuaa was, by the law of 1839 and the second Organic Act of 1846, subject to the fishing rights of the hoaainas or tenants of the ahupuaa. On this basis the Court ruled that the defendant had the right to fish in the reef area.

In the English version of the 1846 statute, the mauka boundary of the reef fishing grounds was placed at the low water mark. On the basis of its reliance on that statute, Justice Marumoto expressed the opinion in his dissent in Ashford (1968) that "the decision contains a clear implication that the seaward boundary [of the defendant's parcel] extended to low water mark." The description of the makai boundary as "along the edge of the sea" certainly does not indicate that it followed the low water mark, and whether the end of stone wall by the sea" was at low water mark or at some other line considered the edge of the sea was not specified. Marumoto's opinion was therefore based on the

English wording of the 1846 statute and on the reasonable assumption that the makai boundary of the ahupuaa and the mauka boundary of the appurtenant fishing grounds were identical. As will be shown later, Marumoto's opinion is undermined by the Hawaiian wording of the 1846 statute and its 1839 predecessor.

Keelikolani v. Robinson (1862)

The case of Keelikolani v. Robinson concerned a piece of land in Honolulu. The father-in-law of the plaintiff had in 1872 assigned half ownership of the property to the respondent. In return the respondent was to maintain the property and pay the original owner part of the proceeds from its use. The case was complicated in that additional land was later substituted for a part of what had originally been assigned to the respondent, and questions were raised as to the title of the plaintiff and as to the extent to which payments by the respondent were in accord with the agreement.

The property in question was the "King's wharf" on the Honolulu Harbor waterfront and the case was cited by Chief Justice Richardson in his opinion in Ashford (1968) as indicating the uniqueness of the basis of Hawaii's land laws in ancient tradition, custom, practice and usage. However, the makai boundary of the property was not at issue in the case, and the boundary was not described in the decision of the Supreme Court of the Kingdom.

Kanaiana v. Long (1872)

The case of Kanaiana v. Long (1872) concerned the ownership of a large lot, part of the ili of Waikahalulu that encompassed much of downtown Honolulu. The case was cited by Chief Justice Richardson in his opinion in Ashford (1968) as precedent for reliance of the Supreme Court on kamaaina testimony. The lot in question was the mauka portion of the ili, and no shoreline boundary was at issue. However, the decision, written by Chief Justice Allen, referred to the makai boundary of the ili being described as "by the sea" from a point "at the seaside at the foot of Punchbowl Street to a point midway between Maunakea and Nuuanu Streets."

Koa v. Kaahanui (1876)

Koa v. Kaahanui (1876) was referred to by Justice Marumoto in relation to the State's claim in Ashford that a particular section in the Civil Code of 1859 was an indication that "early Hawaiians considered the seaward boundary to be along the upper reaches of the waves at high tide." This 1876 case is the only one in which that statute has been construed. As pointed out by Marumoto, the case dealt with the ownership of driftwood found on the beach. By the statute and the court's decision in the case, the driftwood, which was found on beach at Punaluu, belonged to the finder regardless of where it was found on the shore and the ownership of the shorefront land. There was no identification of makai boundaries in the Supreme Court's decision in the case.

Boundaries of Pulehunui (1879)

The Pulehunui (1879) case was cited in both the majority opinion on Ashford (1968) and Marumoto's dissent in relation to the admissibility of kamaaina testimony. It dealt with a dispute concerning a boundary on Maui. The boundary in question was one between

the ahupuaa of Pulehunui and the ahupuaa of Waikapu. The dispute concerned where that boundary met the shore, not where it ran along the shore. As established by the Boundary Commissioner, the boundary of Pulehunui included a course of about 200 feet along the sea coast from a sand spit known as Kihei to a point of rock called Kalaepohaku or Kalaea, but the Supreme Court's decision in the case did not indicate what feature or line was followed by that makai course.

Halstead v. Gay (1889)

Halstead v. Gay (1889) was a case of claimed trespass. The defendant had entered the land of the plaintiff (or the shore area fronting that land) on the sand beach 30 to 50 feet mauka of the line of high water. The trial court ruled that in doing so he had trespassed on the plaintiff's land.

The Halstead land was a parcel of shorefront land on Oahu that was covered by a Royal Patent Grant. Two courses of its boundary had been described in the Patent as "a hiki i kahakai", and a third course as "ma kahakai a hiki i ka hope o ka hola ma au". These the court translated, respectively, as: "reaching to high water mark" and "along the highwater mark to the end of the first course." Both parties in the case agreed that, subsequent to the Patent, the shorefront had been extended seaward by accretion, and the case turned on the location of the makai boundary of the Halstead land after the accretion had occurred and the relation of the point of entry of the defendant to that location.

The Supreme Court affirmed the trial court's decision, ruling in this case, for the first time in Hawaii, that the legal doctrine of accretion applied in Hawaii. In the synopsis of the case, the ruling was expressed as follows:

> Land now above high water mark, which has been formed by imperceptible accretion against the shore line of a grant, has become attached by the law of accretion to the land described in the grant and belongs to the littoral proprietor.

The Court noted that the Civil Code of 1859 provided that the mauka boundary of reef fishing grounds appurtenant to adjacent lands was the low water mark. (This provision in the Civil Code was identical to that in the English version of the Organic Act of 1846 to which reference had been made in Halstead v. Montgomery (1858). Whether the makai boundary of the Halstead land should be considered the low water mark rather than the high water mark was, however, considered by the Court unimportant in the case, because if Gay entered the land 30 to 50 feet mauka of the high water mark, he entered even farther mauka of the low water mark. The Supreme Court affirmed the decision in the lower court that had first considered the case that Gay had trespassed.

In his dissent in Ashford (1968), Justice Marumoto pointed out that if Gay's entry had been on the sand beach, it was makai of the vegetation line and hence that, by implication, the Supreme Court ruled in Halstead v. Gay that the "kahakai" and high water mark were not the vegetation line but some line farther makai.

I will return later to the meaning of "ma kahakai", and the considerations that led to its translation by the Court as "along high water mark."

Bishop v. Kala (1889)

The case of Bishop v. Kala (1889) represented a suit brought by the trustees of the estate of Charles R. Bishop to sever the possession of a parcel of waterfront land at Kaaukukui, Kakaako, Oahu, from the defendants who claimed they had gained title to the parcel by prescription. The parcel, which bordered on Honolulu Harbor, had been used by the chiefs as well as one Kaau, the father of one of the defendants and husband of the other, as land on which to draw up their canoes. Houston (1953) cited the case for this indication of early Hawaiian uses of the shoreline.

By a split decision, the jury in the trial court ruled that the defendants owned the land, but the Supreme Court ruled that the usage of the parcel by Kaau and the defendants had been as servants to the owners of the remainder of the land and not as exclusive and adverse to the plaintiffs and hence was not a proper basis for prescription.

The position of the makai boundary of the land was not at issue in this case.

King v. Oahu Railway and Land Co. (1899)

In 1890 the Hawaiian Kingdom leased to Oahu Railway and Land Co. (OR&L) certain premises, including a part of Honolulu Harbor. The Company served notice of its intent to obtain title to the water area, below the low water mark, by eminent domain under the provisions of a General Railroad Act of 1878. The case of King v. OR&L involved a bill in equity sought by James King, Minister of the Interior of the Republic of Hawaii for an injunction against the proposed action of the Company. The Supreme Court ruled in this case that the defendant could not exercise the right of eminent domain against the authority that had transferred the right to the defendant (the Hawaiian government).

In its decision the court quoted a U.S. Supreme Court ruling in a mainland case that title to land seaward of the high water mark was different in character from other lands conveyed by the state to private ownership in that the seaward lands are held in trust for the people of the state for use in navigation and fishing.

King v. OR&L was cited by Chief Justice Richardson in his opinion in Sotomura (1973) as an illustration of the application of the public trust doctrine to areas seaward of the shoreline. No makai boundary was at issue in the case, although the boundary of the area leased to the Company was described in the Supreme Court decision written by Chief Justice Judd as "at a depth of five feet at mean tide."

Territory v. Liliuokalani (1902)

The Liliuokalani (1902) case concerned the makai boundary of land in the Kuhio Beach area of Waikiki, Oahu, that was owned by Liliuokalani, the former Queen. The land had been acquired by Liliuokalani's mother in 1866 by a Royal Patent which described the boundary as "running to the sea, thence along the sea at low water mark." Considering that this boundary was at low water mark, Liliuokalani authorized J.H. Wilson to remove sand and gravel between the high and low water marks. However, the Territory of Hawaii sought in the Third Circuit Court an injunction against the removal of sand and gravel.

On the basis of several arguments the Territory contended that the King had no power to make a grant of land seaward of high water mark, and hence that this mark was the makai boundary of the Liliuokalani land. The Territory also pointed out that Waikiki

Beach was a much used bathing place and that the use of the lands between high and low water marks was of enormous value to the Territory for the "health, recreation, and pleasure of its citizens and the attraction of tourists and others."

The Third Circuit Court refused to allow the injunction on the basis that the grant of the land to low water mark was legal.

As one basis for its contention that the King could not legally have granted the land to low water mark, the Territory had used the provision in the 1840 constitution that the King held all lands not as private property but as the sovereign on behalf of the chiefs and people. Concerning this argument, the Supreme Court, noted that Kamehameha V had abrogated the 1852 Constitution and commented that, although a constitutional monarch, he had been "little embarrassed by constitutional restrictions."

The Territory had used, as a further argument to support its contention, an 1850 resolution by the Privy Council that the rights of the King as sovereign extended from the high water mark seaward for a marine league. However, the Supreme Court pointed out the the Privy Council had only advisory, not legislative powers.

In addition, the Territory had argued that the usual stipulation in the Royal Patent reserving certain rights to the people referred to a right of the people in general to use the beach between high and low water marks. However, the Supreme Court ruled that in the stipulation:

> The words "koe nae ke kuleana o na kanaka" or in their English equivalent, "reserving however, the people's kuleana therein", as used in conveyances in this territory, means a reservation of the houselots, taro patches, or gardens of natives lying within the boundaries of the land conveyed.

The majority opinion of the court, written by Circuit Court Judge Gear (replacing Chief Justice Frear who was disqualified) did not discuss the point made by the Territory that Waikiki Beach was an important bathing place. However, Thomas Fitch, a member of the bar who also sat as a substitute judge, stated in a concurring opinion that: "In no usage, decree, constitution or law of the Kingdom of Hawaii can be found any mention of such a thing as a right or privilege of bathing."

With respect to the reservation in favor of the people, I will refer later to an opinion by Houston concerning the meaning of the Hawaiian phrasing of the reservation in the grant that is at variance with the meaning assigned by the court, Although Houston's opinion has no legal force, it might be considered by the courts in the future. While it may be true that a right of bathing had not been expressed in any legal document, ample evidence of the use of the sea for bathing can probably be found in records of Hawaiian use and tradition.

Although questions may now be raised concerning the meaning of the reservation in the Royal Patent and the possible public right of sea bathing, the makai boundary of the Liliuokalani land seems firmly settled as the low water mark in the decision of the Court, which upheld the lower court's refusal to allow the injunction sought by the Territory. The Liliuokalani case was one of those cited by Justice Marumoto, in his dissenting opinion of Ashford 1968), as involving a low-water-mark makai boundary.

Brown v. Spreckels (1902, 1906)

Case history

The case of Brown v. Spreckels concerned the makai boundaries of certain parcels of land on the waterfront of the town of Hilo. The plaintiff, who owned the parcels, considered that they included shoreline areas that were being used by the defendants and from which he could eject them. Although three parcels of land were involved, there were but two titles, one covering two parcels. Title to what was referred to in the case as the "Kalaeloa land" had originally been recognized in a Land Commission award in 1851 to Kalaeloa that had been followed by a Royal Patent in 1853. Title to what was referred to as the "Bates land" had originally been conveyed by deed from Kamehameha III to E.G.V. Bates in 1853. Between the time of the original patent and deed and the initiation of the suit by Brown there had been accretion to the shore.

The suit for ejectment was considered first in a jury trial in the Fourth Circuit Court. The jury disagreed, and at a second trial, the judge ordered a non-suit which was appealed by the plaintiff to the Territorial Supreme Court. The Supreme Court in 1902 ordered that the non-suit order be set aside, decided certain of the boundary issues, and returned the case to the lower courts.

The venue of the case was thereafter changed successively to the Third Circuit Court and the First Circuit Court. In both the juries disagreed. It was then argued that the change of venue from the fourth circuit was void, but the Supreme Court ruled otherwise (16 Haw 476) and directed the First Circuit Court to try the case again. This trial resulted in a verdict in favor of the plaintiff. Through appeal of the defendants, the case again reached the Supreme Court, which in 1906 decided the remaining issues.

In addition to the identification of the shoreline boundaries of the Bates and Kalaeloa lands, several issues were raised in the first passage of the case through the courts that related to the chain of the titles from the original owners of the lands to Brown and to the handling of the cases in the lower courts. These issues are not discussed here except as they bore on the boundary questions.

Considerations in first passage through the courts

Most of the Kalaeloa land lay east of what is now King Street and mauka of Fort Street. The makai boundary had been defined in the original documents in three ways:

1) As "ma kapa o ke kai," a Hawaiian phrase whose translation was considered in the case to be "along the edge of the sea."

2) By a metes and bounds survey.

3) By a diagram which showed: a) a straight solid line representing the survey line along the shore, b) a wavy line along the shore farther makai, separated from the straight line, by an area labeled "beach", and c) the side lines of the property, shown as solid lines as far makai as the solid line along the shore, but continued by dashed line to the wavy line.

In a subsequent deed from Kalaeloa to a later owner, the land boundaries were described by the methods in 1) and 2), but in the new deed the phrase "with the right of extension to the low water mark", was added and a roadway (Hilo's Front Street) was excluded. A further problem was presented by the deed to a still later owner; but that problem is not pertinent to this discussion.

Most of the Bates land lay east of Waianuenue Street, west of King Street and mauka of Front Street. Except for the makai boundary, the boundaries had been defined in the original deed by a survey. The description implied that the land included also "the sea beach in front of the same down to low water mark."

The non-suit ordered by the Fourth Circuit Court before the case first reached the Supreme Court was based primarily on the assumption that neither the King nor the government had the right to grant private title to land seaward of the high-water mark. However, in its decision, written by Chief Justice Frear, the Supreme Court ruled on the basis of its decisions in King v. OR&L (1899) and Liliuokalani (1902), that the king and government did have this right at the times of the award of and patent to the Kalaeloa land and the deed to the Bates land. The Court also ruled on the basis of Halstead v. Gay (1889) that, by the doctrine of accretion, the boundaries of the lands in question, however defined, had shifted seaward with the advance of the shoreline.

The defendants had contended that the term "beach", as used in the diagram showing the Kalaeloa land and in the description of the Bates land, was used in a narrow legal sense. Although they had cited a Connecticut case in which the beach was held to include a shore area inland of the high water mark, they claimed that legally "beach" meant the area between the high water mark and the low water mark.

The Supreme Court commented in its first decision (Brown v. Spreckels, 1902) that:

> A word may be used in a deed in almost any sense, and if it appears in a proper way that the intent was to use a word in any particular sense, whether in a technical sense or in a popular sense, or a sense in which the word is not used at all by others, the court will give it the intended meaning.

In the record of the case as described by the Court:

> There was more or less testimony as to just where high water mark was at the time of the deed from the King, but it will hardly be necessary to go into that at length now. Apparently at that time there was an earth bank against which the sea washed, which was in places above the lower side of Front Street, and sometimes in very strong weather the sea washed over it in places.

The ruling of the Court, as indicated in the synopsis of its 1902 decision, was that:

> The word beach may be used in a legal sense as meaning the space between high and low water marks or in a popular sense as including more or less land according to the circumstances, above high water mark.

With respect to the makai boundary of the Kalaeloa land, it was the Court's opinion that: a) the description of the boundary as along the edge of the sea indicated what was actually intended; b) the survey was "for convenience made of the land above what was

popularly considered the beach;" c) the diagram was an attempt to represent both the description and the survey; and d) the right of extension in the later deed was in fee, and not an easement as had been contended by the defendants. In summary, the Court decided that the Kalaeloa land extended at least as far seaward as the high water mark.

With respect to the Bates land, the defendants had contended that there were actually two pieces, a mauka portion bounded along the shore by a line defined by the survey, and a makai portion consisting of the beach, bordered inland by the highwater mark. Between these two, they contended, there was a narrow strip of land mauka of the high water mark but makai of a line defined by the survey. The Supreme Court held that: a) the inland portion extended seaward nearly to high water mark; b) the land between the survey line and the high water mark had little value and was used in connection with the rest; c) there was no apparent reason why the strip in question and the beach between high and low water marks would not have been granted together with the inland portion; d) and the possession of the strip was taken by the grantee without question.

Considerations in second passage through the courts

The question of the intent in use of the term "beach" was reargued in the second passage of the case through the courts. In its second decision (Brown v. Spreckels, 1906), the Supreme Court held that:

1) on the basis of the predominance of evidence presented, the term beach was used in the case of the Kalaeloa and Bates lands in the broad popular sense; and

2) the Kalaeloa land extended seaward, not merely to at least the high water mark, but to the low water mark.

The Court also reaffirmed its earlier decision that there was but one piece of Bates land extending seaward to the low water mark.

In addition the Court held that: "The rule that accretion should be divided between adjoining proprietors so as to give them new shorelines proportional with the old is not of universal application", and, specifically, not applicable to the makai boundaries of the Bates land in the light of the accretional effects of a sharp promentory near the foot of Waianuenue Street.

Discussion

In his dissenting opinion in Ashford (1968), Justice Marumoto cited Brown v. Spreckels as a case involving a low-water-mark makai boundary. The case is of interest also in indicating: a) possible uncertainties whether a term employed in boundary description, in this case the term beach, was used in a special legal sense or in a popular sense, and the importance of kamaiana testimony in resolving such uncertainties; b) an interpretation of the boundary descriptor "ma kapa o ke kai", translated as "along the edge of the sea"; c) one means by which discrepancies between a survey and a verbal description might be reconciled; and d) a recognition that wave wash might be considered in determining the location of the high water mark, although this latter boundary descriptor was not critical in the case.

Territory v. Kerr (1905)

Territory v. Kerr (1905) concerned the usage of land in Waikiki, Oahu. The land in question constituted Apana 2 of Land Commission Award No. 10677, except for the Waikiki road (now Kalakaua Avenue?) running along the shoreline, whose right of way had been conveyed to the Territory in 1902. In the Award, the makai boundary had been described as running "Ma kahakai" which was considered to mean "along the sea." There had, however, been accretion since the award was made, as a result of which there was land above the highwater mark lying seaward of the road. The defendant had commenced to build a concrete wall more or less following the low water mark of the accreted land, and intended to construct a residence on fill to be placed behind the wall.

The Territory sought to restrain the defendant from proceeding with his plans, and to require him to remove the wall, on the grounds that the defendant did not have title to the area between high water mark and low water mark and the construction was illegal. The defendant held that, even if he did not own the land, as a littoral owner he had the right to carry out the construction. There were other technical issues concerning the appropriateness of the Territory bringing the suit without the Federal government being a party, concerning the appropriateness of addressing a question as to title in a suit in equity such as had been brought by the Territory, and concerning the rights to construct certain kinds of shoreline improvements by the owners of littoral property. These issues are not germain to the boundary issue. In the First Circuit Court, the defendant's claim was sustained, but the Supreme Court reversed the decision.

For the sake of argument, the attorney for the Territory had assumed that the defendant owned the land seaward to the high water mark "whatever the interpretation of this language means," but only because ownership of the area mauka of that boundary was not vital to the issue in the case. The Supreme Court, in a decision written by Justice Hartwell, held that the defendant's land extended seaward only to the (post-accretion) "line of high water" citing "Gay v. Halstead" [sic, actually Halstead v. Gay] (1889), and that, under the Organic Act, the Territory had the right to prohibit the kind of construction undertaken by the defendant.

McCandless v. Du Roi (1915)

The case of McCandless v. Du Roi (1915) dealt with a property boundary along a ditch rather than along the seashore. It is included among the cases dealing with makai boundary issues because littoral and riparian principles of law have been considered similar and, specifically, because the decision rendered in the case by the Supreme Court was held in the opinions in Sanborn (1977) and in Zimring (1977) to be pertinent to makai boundaries.

The land with which the case was concerned had been registered in the Land Court. In the Land Court decree a part of its boundary was described as following the bank of an auwai (ditch) and also by a survey. There were discrepancies between the survey and the actual position of the ditch bank. The principal issue in the case was whether the boundary was defined by the verbal description or by the survey.

As reported in the synopsis of the Supreme Court's decision, the Court concluded that:

> Where a decree of the land court determined the boundary of land to be the bank of an auwai, the bank must be regarded as the true boundary, and not the meander points or lines which describe the sinuosities of the auwai.

Bishop v. Mahiko (1940)

The case of Bishop v. Mahiko (1940) is one of the most important dealing with the status of private fishing rights in the light of the purposes expressed in the Organic Act that fisheries in the sea, not including fish ponds, be made free to all citizens of the United States. The case dealt specifically with fishing rights associated with the ahupuaa of Makalawena in the vicinity of Keahole and Puako, Hawaii. Neither the makai boundary of the ahupuaa itself nor the mauka boundary of the associated private fishery were at issue in the case. However, the Supreme Court decision in the case, written by Justice Peters, cited both Hawaiian and English precedents concerning such boundaries.

The Hawaiian precedent was the 1850 resolution of the Privy Council of the Kingdom of Hawaii: "That the rights of the King as Sovereign extend from high Water Mark to a marine league to Seaward, and to all Navigable Straits and passages among the Islands, and no private rights can be sustained, except the private rights of fishing, and of cutting Stone from the Rocks as provided for and reserved by law."

The English precedent was from De Jure Maris: "The Shore is that ground that is between the high water and low water mark. This doth prima facie and of common right belong to the King, both on the shore of the sea and the shore of arms of the sea. Yet they may belong to the subject in point of propriety not only by charter or grant, whereof there can be but little doubt, but also by prescription...But though the subject may have the propriety thereto yet there is a jus publica."

From these precedents, the Court drew the conclusion that land below the high water mark is owned by the State "subject to, but in a sense in trust for, the enjoyment of certain public rights." The case was cited by Chief Justice Richardson in his opinion in Sotomura (1973) as indicative of the application of the public trust doctrine to such lands.

Klausmeyer v. Makaha V. F. Ltd. (1956)

In Klausmeyer v. Makaha (1956), the petitioners sought to have the respondents enjoined from removing sand from a beach lot at Makaha, Oahu, owned by the respondents. This lot adjoined another beach lot that the respondents had sold to the petitioners. The petitioners alleged that the removal of sand would cause shifts of sand from their lot to that of the respondents and thereby cause irreparable damage to themselves. A first temporary restraining order had been modified by the First Circuit Court to the extent that the respondents were allowed to continue to remove sand from within the boundaries of their beach lot, although they were prohibited from removing sand from below the high water mark. The modified order was appealed by the petitioners to the Supreme Court. Because the judge of the First Circuit Court had not stated in his decision "whether, or wherein, he found that the evidence introduced by the respondents had overweighed the evidence which had previously been introduced by the petitioners...", the Supreme Court reviewed all of the evidence introduced in the lower court.

In the opinion of the Court, written by Justice Rice, it was recognized that: a) although seasonal shifts in the position of the beach at Makaha were normal, removal of sand from any one part of the beach at a rate in excess of the rate of sand production, would result in shifts of sand from adjacent parts of the beach and hence retreat of the entire beach; and b) that the removal of sand would have this effect if it occurred anywhere within the reach of the waves, and not merely if it occurred seaward of the high water mark. The case was remanded to the lower court with instructions to restrain the sand removal operations of the respondents wherever these operations might affect the plaintiffs lot.

In a concurring opinion, Justice Stainback indicated that the respondents were liable for damages to the plaintiffs' land under the doctrine of lateral support even if their sand removal operations were not the sole cause of the retreat of the shoreline of the plaintiffs' land.

The Federal District Court in Sotomura (1978) cited Klausmeyer as indicating implied acceptance by the Supreme Court of the definition of the high water mark in the context of a makai boundary description as the line of mean high water. The boundary of the petitioners land was not at issue in Klausmeyer but, as modified by the First Circuit Court, the initial restraining order allowed the respondents to continue sand removal operations within the boundaries of their lot although barring such operations makai of the high water mark. One registered surveyor testified that he had marked the boundaries of both beach lots as a line at an elevation 0.8 feet above mean sea level, and another registered surveyor testified that he had calculated sand reserves on the respondents lot above that elevation.

Application of Kelley (1968)

In re Application of Kelley (1968) was a case that dealt with an application to the Land Court for registration of two parcels of land at the foot of Diamond Head, Oahu. The parcels had been part of the iliana of Kapahulu which had been acquired by Lunalilo through the Mahele of 1848 before he became King. On Lunalilo's death, the trustees of his estate were ordered to dispose of all real estate owned by him. For its disposal the iliana was subdivided in 1882. The mauka parcel of land at issue in Kelley was one of a row of lots that were shown on the registered map of the "Kapahulu lots" as paralleling the shore but separated from it by an unidentified strip of land. The makai parcel was a part of this unidentified strip. A much larger lot was shown on the map as lying mauka and ewa of the row of smaller lots.

The large lot was sold by the trustees in 1884 to the Hawaiian Government, "reserving however a public right of way fifty feet wide along the sea beach and across the southeastern portion of the said premises where the present road runs." The smaller lots in the row, including the mauka parcel of the land Kelley sought to register, were sold to various parties in 1885. The deeds described the makai boundaries of these lots as "at the mauka side of the road near the sea."

There was no question as to the ownership of the mauka parcel Kelley sought to register. Its title had passed from the original purchaser to Kelley. The ownership of the makai lot was, however, at issue. The Land Court upheld Kelley's claim to ownership, which had been disputed by the State of Hawaii, but the State appealed the Land Court decision. The Supreme Court ruled in favor of the State, finding that: a) the "road near the sea" makai of the mauka parcel was the same road as that on the 50-foot right of way along the sea beach on the large lot; b) this road was actually used in 1884-1885 for

travel between Waikiki and Kahala; c) the government had acquired ownership of this road under the Highways Act of 1892; d) when the roadway was abandoned, after the present Diamond Head road was constructed in the early 1900's, title reverted to the government as the owner of the major part of the iliana, rather than to the owners of the small lots that had been carved from the iliana; and e) Kelley could not obtain the makai parcel by adverse possession against the government.

The Kelley case was cited by the Supreme Court in Zimring (1970) in relation to this last finding.

Application of Castle (1973)

In 1971 the executors of the estate of H.K.L. Castle petitioned the Land Court for consolidation and resubdivision of four lots that were parts of a piece of land on the windward coast of Oahu that had previously been registered with the Land Court. The makai boundary of these lots had been described in the certificate of title as the high water mark. In accordance with law, the map of the lots was referred to the State Surveyor for verification. He reported that "the present seashore boundary of these lots are [sic] farther mauka (inland) than the highwater mark shown on the map submitted for the consolidation and resubdivision and [the map submitted with the original land court application]." The Surveyor indicated that the State disputed the validity of the makai boundary. Subsequently the State filed a formal objection. On a motion of the petitioner's, the Land Court struck the State's objection on the grounds that, under the terms of the law, the State could intervene only if it claimed ownership of the area makai of the new high water mark, a claim that the State had not made. The State appealed this action to the Supreme Court.

As indicated in the three-to-two majority decision of the Supreme Court, written by Justice Abe, the Court felt that the State had probably failed to claim ownership of the makai area because the Supreme Court had not yet ruled on the status of registered land that had been subject to erosion, and that the failure was not a flaw fatal to the State's intervention. The case was remanded to the Land Court with instructions to consider the Surveyor's report and the State's objection. In the opinion of the minority, written by Justice Kobayashi, the Land Court's striking of the State's motion had been proper.

The Castle case was cited in the majority opinion of the Supreme Court in Sotomura (1973) as a precedent allowing the courts "to determine the effects of erosion in whatever form they arise." It was also cited in Sotomura (1978) by the Federal District Court with the observation that if the State had the right to be heard on a possible claim to title by erosion, the owner of the land mauka also surely had a right to be heard.

Additional cases

The court cases discussed in Chapter II, and in Chapter III to this point, were all decided in the Hawaii Supreme Court. There must be a very large number of additional court cases involving makai boundaries that did not reach the Supreme Court, especially Land Court cases fixing the makai boundaries of registered lands. A general search for such cases was quite beyond the practical scope of my study, and I merely note those to which reference was made in the Supreme Court opinions in the cases of Chapters II and III.

There were only two. Both were referred to by Justice Marumoto in his dissenting opinion in Ashford (1968), and in both the Land Court approved the location of makai boundaries at the "mean high water line" in spite of governmental objections. The Land Court decisions in the two cases were reflected in a decree of June 1940 concerning Application 1225 and in a decree of February 1963 concerning a petition to register title to accretion of a portion of land registered in accordance with Application 616. According to Marumoto, the government did not appeal either case.

IV. THE ISSUES

In the court considerations in the cases summarized in Chapters II and III, eight general makai-boundary issues may be recognized.

1. Makai boundary definition authority

The first, which was addressed in these cases only peripherally is:

> What definitions of makai boundaries are authoritative?

2. Achievement of makai boundary uniformity

Clearly there have been differences among the definitions of the makai boundaries that have been at issue in the various cases. Some of the boundaries were defined as ma ke kai or ma kahakai, or as following some water mark, and some have been defined by surveys. Regardless of the definitiveness or ambiguity and the precision or imprecision of the various descriptors, it is obvious that among them there is at least one pair that are mutually inconsistent: high water mark and low water mark. Hence, it is clear that there have been not only differences among the descriptive terms used, but also differences among the lines to which they referred. It is also clear, however, from the arguments presented in the cases and the opinions expressed by the courts that one issue has been the extent to which uniformity among the boundaries can be achieved by the courts. This issue may be phrased broadly as follows:

> Are all makai boundaries properly considered to correspond to a single natural feature or tide line, or may the makai boundaries of different parcels of land correspond to different natural features or tide lines?

3. Choice of a uniform makai boundary definition

If uniformity is properly achievable, the next issue that must be faced is:

> To what feature or tide line should makai boundaries correspond?

Regardless of the extent to which uniformity is properly achievable, the following three issues must be faced:

4. Occurrence and cause of shore shifts

> Has the shore at any particular parcel of shorefront land advanced seaward (or retreated landward) since the boundary was originally established, and if so what processes caused the shift?

5. Boundary consequences of shore shifts

> If the shore of a parcel has thus advanced (or retreated), has the makai boundary of the parcel shifted seaward (or landward)?

6. Reestablishment of boundaries after shore shifts

If the makai boundary has shifted seaward (or landward) how is the post-shift boundary to be established?

The remaining issues are pertinent only if the makai boundaries of all parcels are not properly regarded as corresponding to a single natural feature or tide line:

7. Treatment of discrepancies in makai boundary definitions

If the boundary of a parcel was established by a definite combination of the means listed in connection with Issue 1, and a discrepancy is found between the locations implied by the different means, other than a discrepancy originating through the advance (or retreat) of the shorefront, how is the discrepancy to be resolved?

8. Recognition and resolution of ambiguities

If the most authoritative boundary of a parcel was described ambiguously, how may the ambiguity be resolved?

V. PERTINENT CONSTITUTIONAL, LEGISLATIVE, AND ADMINISTRATIVE PROVISIONS

There is undoubtedly a great deal of available information that is pertinent to the identification of makai property boundaries in Hawaii in addition to that reflected in the State Supreme Court and Federal Court decisions discussed in Chapters II and III. In the two sections of this chapter, I discuss: first, certain constitutional provisions, statutes, and proposed statutes bearing either on the location of makai boundaries or on the extent to which common law and Hawaiian custom may be used in their determination; and second, pertinent administrative policies. The scope of each type of information presented, and the extent of my search for information of each, are indicated in the introduction to each section.

Constitutional, statutory, and proposed statutory provisions

In theory, since constitutional limitations were first accepted by the Hawaiian monarchs, basic rights in land tenure and associated governmental authority have been defined by the constitutions. Within the constitutional provisions, land policies of the government, including those employed in the establishment, transfer, and registration of land titles and the definition of land boundaries, have been subject to legislative determination. The civil functions of the courts have been to assure that the legislative statutes are in conformity with constitutional law and to adjudicate issues arising through ambiguity or incompleteness in the legislative statutes. Administrative decisions of the executive branch of the government have supposedly been determined in accordance with the body of law represented by the statutes and court decisions.

For the purposes of this report, there seemed no point to reviewing all of the constitutional and legislative provisions regarding land tenure and land-use rights. However, some of the past and present statutes that bear on the definition of makai boundaries, and statutes proposed to define these boundaries, are reviewed in this section.

Some Hawaiian statutes have been claimed in the courts to imply definitions of makai property boundaries. Other statutes have clearly defined boundaries to the areas of application of certain regulatory provisions. Many more statutes have indirect implications pertinent to the determination of makai boundaries. However, although at least two bills have been introduced in the State Legislature with the intent of defining systematically the positions of makai property boundaries, no statutes of the Kingdom, the Provisional Government, the Republic, the Territory, or the State of Hawaii have actually defined these boundaries.

In this section, I review the statutes defining shorelines for regulatory purposes, a few of the more important other statutes that the courts have considered pertinent in deciding makai boundary cases, and the two bills proposing definitions of makai property boundaries.

Statutes considered to imply makai boundary locations

Reference has already been made, in the background discussion of fishing rights, to the provisions regarding konohiki fishing rights in the 1839 law regulating property, the Organic Acts of 1845-1847, and subsequent statutes. In the 1839 law, which was published

in Hawaiian in 1840, this provision read: "O ke kai hoi mai kua nalu a hiki i kahakai no na konohiki." In a modern English translation, filed in the State Archives, this provision is given as: "The sea, however, from the breakers to the beach, is for the landlords."

The provision was rephrased in the second section of Article 5, Chapter 6, Part I of the Organic Act of 1846. (The first section dealt with deep water fishing rights, and a third section contained a reservation of fishing rights to the tenants.) The Organic Act was published in both Hawaiian and English versions. The English version of the konohiki fishing rights provision was as follows:

> SECTION II. The fishing grounds from the reefs, and when there happen to be no reefs from the distance of one geographic mile seaward to the beach at low water mark, shall in law be considered the private property of the landlords whose lands, by ancient regulation, belong to the same; in the possession of which private fisheries, the said landholders shall not be molested except to the extent of the reservations and prohibitions hereinafter set forth.

The Hawaiian version of the description of the fishing grounds of the landlords (konohiki) was:

> O na wahi lawaia, mai kahakai a hiki i kuanalu, a ma kahi kuanalu ole, mai kahakai ahiki hookahi mile makai...

The English version of the 1846 statute was cited in Haalelea v. Montgomery (1858). In his dissent in Ashford (1968), Justice Marumoto concluded that the use of the provision in that 1858 case implied that the makai boundary of the ahupuaa of Honouliuli was the low water mark. Clearly the term low water mark was in use in Hawaii by 1846. However, Justice Marumoto's conclusion seems unwarranted in the light of the language of the Hawaiian versions of the description of the konohiki fishing grounds in the two statutes.

I am indebted to Abraham Piianaia, a geographer and the Director of the Hawaiian Studies Program of the University of Hawaii, for advice on the translation and interpretation of this language and other pertinent Hawaiian terminology (personal communication). Piianaia was brought up from birth and lived for 24 years with his maternal grandparents. In their home, Hawaiian and English were spoken with equal fluency and understanding.

For "kua nalu", Pukui and Elbert (1957) give as meanings, "surf just before it breaks" or "place where the surf breaks". According to Piianaia, the first of these meanings is the preferable one. A breaker is "poina nalu". "Kua nalu" refers to a wave as it mounts from deep to shallow water prior to breaking. Where a reef rises steeply from deep water, the waves may mount abruptly at the outer edge of the reef, but elsewhere "kua nalu" cannot rightly be interpreted as meaning "reef". There is generally a considerable distance between the point where the waves begin to mount and the point at which they actually break. Hence "kua nalu" cannot rightly be interpreted as referring to "breakers".

For "kahakai", Pukui and Elbert give as meanings "beach" or "sea shore". Etymologically, however, its meaning is "sea (kai) mark (kaha)". In a draft of this paper reviewed by Piianaia, I translated "kahakai" as "mark of the sea" and suggested that it referred to a visible mark. Piianaia has confirmed the appropriateness of both the translation and the interpretation.

Translating literally, therefore, the konohiki fishing grounds were defined in the 1839 statute and the Hawaiian version of the 1846 statute, respectively, as:

(i) ...the sea from where the waves mount before breaking to the mark of the sea...

(ii) The fishing grounds from the mark of the sea to where the waves mount before breaking or, where there are no mounting waves, from the mark of the sea one mile seaward...

Because the term "kahakai" has been employed directly as a makai property boundary descriptor, I will discuss later in greater detail its meaning and proper interpretation in that context. In relation to the fishing-ground definition in the statutes, it is sufficient to say that it might be translated alternatively, as meaning "beach" (as in the translation of the 1839 Act), as meaning simply "shore" in a general way or, considering its etymology, as meaning a "mark of the sea", quite possibly a visible mark.

Dr. Gerrit P. Judd served as both official recorder for the original Hawaiian version of the Organic Act and as the preparer of the English version. He was obviously considered a competent translator. It appears, however, that he, or whoever may have assisted him in the translation made an error in translating "kahakai". If those who drafted the Hawaiian version of the Act used the term in one of its more general senses, the translation gave the term a much more specific meaning than was intended. Even if the drafters used the term in the sense of "mark of the sea", the translation as "low water mark" is unjustified, especially if the intended meaning was a visible mark, because the sea at low water leaves no persistent mark. In any case, the translation of "kahakai" as "beach at low water mark" is clearly inconsistent with its interpretation as "high water mark" in Halstead v. Gay (1889).

The Organic Act of 1846 was repealed by the Civil Code of 1859, but the provision regarding konohiki fishing grounds was reenacted without change in the language of either the English or Hawaiian versions as Section 387 of that Code, and it was repeated in Section 387 of the Compiled Laws of the Hawaiian Kingdom (1884). Although Section 1493 of the 1859 Code provided that, in the case of a radical and irreconcilable difference, the English version of the code was to be binding, it may be doubted that the legislature intended in 1859 to substitute, for the Hawaiian definition of the mauka boundary of the konohiki fishing grounds, the inconsistent English version. In any event, the case of Haalelea v. Montgomery (1858) dealt with an ahupuaa and associated fishery that had been granted to the original private owner earlier than 1849 (when a portion was deeded to Montgomery by Haalelea). If the mauka boundary of the konohiki fishing grounds had any bearing on the makai boundary of the ahupuaa, it was the Hawaiian version of the 1839 and 1846 Acts concerning the fishing grounds that was pertinent, not the English version that could not have been binding until 1859.

It is appropriate here to refer again to the 1850 Privy Council resolution concerning fishing rights, although, as pointed out by the Supreme Court in Territory v. Liliuokalani (1902), the Privy Council had only advisory and not legislative powers. This resolution was to the effect that no private rights, other than those pertaining to fishing and the "cutting of stone" should be sustained seaward of the high water mark.

This resolution clearly indicates that the term "high water mark" was in use in Hawaii in a legal content, even though the resolution did not have the force of law. Most of the Privy Council records for 1850 were published in the form of Hawaiian and English

versions on alternating pages, but for those of 29 August, including the one in question there were only English and blank pages (Agnes Conrad, personal communication). Hence what Hawaiian term was considered by the Privy Council as equivalent to "high water mark" cannot be ascertained.

Act 273 (1927), which made an appropriation for a major beach reclamation project at Waikiki, stipulated that no construction was to begin unless and until legal arrangements were made whereby the general public would be assured of the right to such portion of any beach built as lay within seventy-five (75) feet shoreward of the mean high water mark. Any beach so built was to remain free of all structures.

In his dissent in Ashford, Justice Marumoto cited this statute as evidence of recognition of the line of mean high water by the executive branch of government. Concerning the relationship between high water mark, mean high water mark, and the line of mean high water or tide, I will have more to say later.

Statutes concerning shorefront use rights

In addition to the laws relating to fishing rights there have been many laws pertaining to the rights of tenants or the public in general to use coastal lands even if they are privately owned. The existence of such rights was recognized in the Fundamental Law of 1839 and the Constitution of 1840. Certain rights of the hoaaina were spelled out in the Organic Act of 1846, and the Act of 6 August 1850. The latter Act was amended in 1851 to delete from the list of rights certain limitations based on need and requirement for informing and obtaining the permission of the konohiki. As thus amended, and as translated in the Civil Code in 1859, this Act is perpetuated in HRS 7-1:

> 7-1. Building materials, water, etc.; landlord's titles subject to tenants' use. Where the landlords have obtained, or may hereafter obtain, allodial titles to their lands, the people on each of their lands shall not be deprived of the right to take firewood, house-timber, aho cord, thatch, or ki leaf, from the land on which they live, for their own private use, but they shall not have a right to take such articles to sell for profit. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, running water, and roads shall be free to all, on all lands granted in fee simple; provided, that this shall not be applicable to wells and water-courses, which individuals have made for their own use.

It will be noted that only two of the rights mentioned in this statute are pertinent to the shorefront--the right to collect fire wood, which might include driftwood, and the right of way.

A specific right to collect driftwood, which was recognized in a law of 1851 and the Civil Code of 1859, has been perpetuated in HRS 7-2.

The right of way was of greater importance. Since long before 1846, the shorefront area had been crossed by the tenants of mauka land to gain access to the sea and by visitors as well as tenants to gain access to the land by canoes and other vessels, and this area had also been used for travel along the coast. It should be recognized, however, that at least originally the right of way as well as the other common rights to use of the land

in an ahupuaa extended only to the hoaaina of that ahupuaa, and not the makaainana (people in general).

Statutes concerning applicability of foreign law and Hawaiian custom

In the absence of Hawaiian statutory definitions of makai property boundaries and shorefront use rights, the extent to which legal concepts applied in other jurisdictions, and concepts and practices customary in Hawaii, might be considered by the courts, in interpreting ambiguous boundary descriptions, or reconciling inconsistent descriptions, is of great importance. Three Hawaiian statutes have defined this extent.

The first, was a section of Chapter I of the third Organic Act of Kamehameha III, approved in September 1847:

> Section IV. The reasonings and analyses of the common law, and of the civil law, may...be cited and adopted by any such court, so far as they are deemed to be founded in justice and not at conflict with the laws and usages of this kindgom. The principles sustained by said courts when sanctioned by the Supreme Court, shall become incorporated with the common law of the Hawaiian Islands, and shall form an essential ingredient in the civil code: Provided always, that the legislative Council of Nobles and Representatives, may by act sanctioned by his Majesty, and duly promulgated, correct, alter, or abrogate the principles of such abstract judgments and decisions, in analyzing cases afterwards to rise before said court, or any of them.

The provisions of the Act of 1847 were recodified in the Civil Code of 1859 as follows:

> Section IV. The reasonings and analyses of the common law, and of the civil law, may...be cited and adopted by any such court, so far as they are deemed to be founded in justice and not at conflict with the laws and usages of this kingdom. The principles sustained by said courts when sanctioned by the Supreme Court, shall become incorporated with the common law of the Hawaiian Islands, and shall form an essential ingredient in the civil code: Provided always, that the legislative Council of Nobles and Representatives, may by act sanctioned by his Majesty, and duly promulgated, correct, alter, or abrogate the principles of such abstract judgments and decisions, in analyzing cases afterwards to rise before said court, or any of them.

The provisions of the Act of 1847 were recodified in the Civil Code of 1859 as follows:

> Section 823. The several courts may cite and adopt the reasonings and principles of the admiralty, maritime, and common law of other countries, and also of the Roman or civil law, so far as the same may be founded in justice, and not in conflict with the laws and customs of this kingdom.

The first of the above statutes was cited by Justice Marumoto in his dissenting opinion in Ashford (1968) and the second was quoted by him as indicating the pertinence of the law in other jurisdictions to makai boundary determinations at the time of the original grants of the Ashford lands. It will be seen that in 1859, and indeed until the Civil Code of 1859 was superceded, the statute gave precedence to Hawaiian law and custom, and to the extent that these were not definitive, did not indicate whether common law or civil law elsewhere had precedence.

The provision of the Civil Code of 1859 was superceded by the following section of Act 57 of the Session Laws of 1892; an Act to reorganize the Judiciary Department:

> Section 5. The common law of England, as ascertained by English and American decisions, is hereby declared to be the common law of the Hawaiian Islands in all cases, except as otherwise expressly provided by the Hawaiian Constitution or laws, or fixed by Hawaiian judicial precedent, or established by Hawaiian national usage, provided however, that no person shall be subject to criminal proceeding except as provided by Hawaiian laws.

This statute took effect on 1 January 1893. As recognized in Zimring (1970a), however, the courts have held, at least since 1963 (De Freitas v. Trustees of Campbell Estate, 46 Haw 425), that the Hawaiian usage to which it refers had to be usage prior to 25 November 1892, the date of passage of the Act. In Zimring (1977) the Hawaii Supreme Court held, in addition, that with respect to property boundaries, the usage had to be later than 1846 when, under the second of the Organic Acts passed during the reign of Kamehameha III, private ownership of lands was established in Hawaii.

With slight revisions to recognize Hawaii's change of status to a Territory and later to a State, Act 57 (1892) continues in force in the Hawaii Revised Statutes as follows:

> Section 1-1. Common law of the State; exceptions. The common law of England, as ascertained by English and American decisions, is declared to be the common law of the State of Hawaii in all cases, except as otherwise expressly provided by the Constitution or laws of the United States, or by the laws of the State, or fixed by Hawaiian judicial precedent, or established by Hawaiian usage; provided, that no person shall be subject to criminal proceedings except as provided by the written laws of the United States or of the State.

The question of pertinence is one to which I will return in a section on Hawaiian custom.

Statutes concerning perpetuation of titles and boundaries

In spite of the transition from an absolute monarchy to a constitutional monarchy, after a brief period under a provisional government to a republic, after a brief period as an unorganized territory to an organized territory of the United States, and finally to one of the states of the United States, and in spite of the great change in the form of land tenure with the Mahele, there is clear evidence of the continuing intent of perpetuating the pattern of tenure in Hawaii.

The major geographic aspects of the tenure pattern are prehistoric in origin. Reference has already been made, in the background discussion of land titles, to the intent of perpetuating the land tenure established during the reign of Kamehameha I, through the reign of Kamehameha II, and into the reign of Kamehameha III. There were substantial changes in the concept of land tenure during this period. The most significant were: (i) the abandonment by Kamehameha II of the practice of assigning lands at will to his subjects, and (ii) the recognition in the Constitution of 1840 that the king held all lands, not as his private property, but as belonging to the chiefs and people as well. These changes did not alter the pattern of tenure. The first, indeed, confined changes on land holding within an orderly system. The intent of the change in the form of tenure from the earlier feudal system through the various statutes pertaining to the Mahele of Kamehameha III was to crystallize this tenure in a system of ownership of the lands.

The surveys of individual land parcels required by the Land Commission (1846-1855) and later by the Minister of the Interior were not intended to establish new boundaries but to record traditional boundaries. Even the Boundary Commission, which was appointed to adjudicate the positions of boundaries when these were at issue, was not authorized to change the boundaries. The work of the Hawaiian Government Survey was not intended to change the boundaries of any parcel of land but to correlate the boundaries of all parcels. Although the requirements for registration of land with the Land Court (HRS 501-51) may include resurvey of a parcel, it seems clear that the objective of these requirements is to assure adequate precision in the location of the boundaries and not to change the boundaries. The law governing registration provides that land registered in the Land Court is specifically subject to the same "burdens and incidents which attach by law to unregistered land" (HRS 501-81).

The Act of 1865 providing that the then crown lands could not be alienated from the crown might be regarded either as (i) instituting a change from the absolute ownership of these lands by the king created by the Mahele to mere sovereignty over them, or as (ii) a restatement of the limitation to sovereignty introduced by the 1840 Constitution. The merging of the crown lands and government lands accomplished by the 1894 Constitution of the Republic did not, in essence, alter this concept of sovereignty. The Organic Act for the Territory of Hawaii called for the transfer to the public of all private fishing rights, but provided that such rights as were then vested be acquired by the Territory by condemnation. There were no changes in the principles of ownership of private lands. The major land ownership change accomplished by the Organic Act was to transfer to the United States the title to the public lands that combined, under the Republic, the crown lands and government lands of the Kingdom. However, these lands remained under the administration and for the benefit of the Territory.

During the period of territorial status, the only significant change was to separate, from the public lands, the Hawaiian Homes lands for administration for the benefit of the descendents of the original Hawaiians under the Hawaiian Homes Commission Act approved in 1921.

The only significant change with Statehood, under the Admission Act of 1959, was to transfer back to the State the title to the public lands and Hawaiian Home lands.

As is shown in the next subsection, at least two bills have been introduced that would have altered some long established makai property boundaries. Neither of these bills was passed by the Legislature.

Although land titles have thus been perpetuated from the time of their establishment under the Mahele to the present, concepts of the rights associated with land ownership have clearly changed with time. Numerous statutes regulating land use have been passed. Some of these pertaining to shorefront lands are addressed in a succeeding subsection.

Bills proposing to define makai boundaries

Two bills have been introduced into the Legislature to establish by statute the positions of makai boundaries.

The first, SB 1947 (1976) was for an Act to amend Chapter 4 of Hawaii Revised Statutes to add a new section entitled "Seaward boundaries", the first of whose two subsections would have read as follows:

> (a) For all privately owned lands having a seaward boundary which has been established as of the effective date of this section by metes and bounds pursuant to chapter 501, the metes and bounds definition shall apply, except as affected by accretion or erosion.
>
> (b) For all other privately owned lands having a seaward boundary, the seaward boundary determining private ownership shall be the normal upper reach of waves, other than storm or tidal waves. The following tests shall apply:
>
> > (1) The normal upper reach of waves shall be evidenced by and considered to be coexistent with the seaward edge of the vegetation line, where such a line exists.
> >
> > (2) Where no vegetation line exists, the normal upper reach of waves shall be evidenced by and considered to be coexistent with the normal line marking wave debris.
> >
> > (3) Where no vegetation or debris line exists, the normal upper reach of waves shall be evidenced by and considered to be coexistent with the mean high tide levels recorded by the United States Coast and Geodetic Survey.

The third and last subsection would have provided for court determinations of boundary positions subsequent to erosion or accretion.

In a review of this bill the University of Hawaii Environmental Center pointed out (Cox, 1976) that although a uniform interpretation of ambiguous boundary descriptors might be accomplished by statute, there might be some makai boundaries that were clearly inconsistent with the "normal upper reach of waves" as marked by the vegetation line or a debris line.

The Center also pointed out that the "normal upper reach of waves" could not be considered coincident with the mean high tide level.

The second bill introduced to establish makai boundaries by statute was SB 1786 (1979). This bill was for an Act to amend Hawaii Revised Statutes to add a new section to be appropriately titled and placed. This new section would have required that:

> Any other law to the contrary notwithstanding, the seaward boundary of ocean front land registered in the land court pursuant to Chapter 501, Hawaii Revised Statutes, shall be that boundary established by decree of registration issued under Chapter 501. The seaward boundary of ocean front land not registered in the land court shall be the mean high water mark.

In reviewing this bill, the Environmental Center pointed out (Cox, 1979) that:

> Regardless of the meaning of high water there are some boundary descriptions in original patents, awards, grants, and deeds, and in subsequent court decisions, that are clearly inconsistent with that term. The decision in Sotomura (1978) indicates that the federal court would consider that implementation of a statute holding that a boundary described as at the low water mark, was actually at the high water mark would constitute a taking that would be unconstitutional unless compensated.

Neither of the two proposed acts was passed by the Legislature. Hence neither can be considered to indicate legislative policy.

Statutes concerning administrative jurisdiction and land-use regulation in the shore areas

Act 169 of the Session Laws of 1915 placed the control of all Hawaiian ocean shores below the mean high water mark in the Territorial Board of Harbor Commissioners. This statute was approved by the U.S. Congress in March 1916. With Statehood, the control was transferred to the Department of Transportation (HRS 166-1).

The statutory provision, reinforced by a 1932 opinion of the Attorney General to which reference will be made later, was included by Justice Marumoto, in his dissent in Ashford (1968), among his arguments for uniform consideration of makai property boundaries as following the mean high water mark.

The State Land Use Act (Act 205) passed in 1963 required that certain coastal areas be placed within the Conservation Land-Use District (HRS 205-2). These included:

> ...areas necessary...for providing park lands, wilderness and beach; ...preventing floods...; open space areas whose existing openness, natural condition, or present state of use, if retained, would enhance the present or potential value of abutting or surrounding communities, or would maintain or enhance the conservation of natural or scenic resources; areas of value for recreational purposes, and other related activities; and other permitted uses not detrimental to a multiple use conservation concept.

The establishment of the boundaries of the Conservation District along the shorelines was left to the Land Use Commission that was established under the Act. These boundaries will be described in the section on Administrative Provisions.

The State Shoreline Setback Law (Act 136, 1970) contains the following definition (HRS 205-31(2)):

> "Shoreline" means the upper reaches of the wash of waves, other than storm or tidal waves, usually evidenced by the edge of vegetation growth, or the upper line of debris left by the wash of waves.

The shoreline thus defined serves as the basis for establishment of setback areas, extending 20 to 40 feet mauka, by the State Land Use Commission (HRS 205-32), or establishment of wider setback areas by the Counties (HRS 205-31). Within these setback areas certain forms of construction are prohibited and others may be undertaken only by special permission; and within and seaward of these areas sand mining and coral removal are prohibited.

The definition of the shoreline in the Shoreline Setback Act and other acts passed later does not directly apply to makai property boundaries, but essentially this definition was applied by the State Supreme Court to such boundaries in Ashford (1968) and Sotomura (1973).

Additional coastal zone management authority and guidance has been provided through the first Coastal Zone Management Act passed in 1973; the Environmental Policy Act of 1974; the Shoreline Protection Act of 1975, which was incorporated in the Coastal Zone law; and amendments of the Coastal Zone law passed in 1977, 1978, and 1979.

The first of these acts (Act 164, 1973), which was passed to take advantage of the Federal Coastal Zone Act passed the previous year, recognized in its findings the authority of the State and counties to acquire "property through condemnation or other means when necessary to achieve conformance with the State's management program for its coastal zones," a program for whose development the Department of Planning and Economic Development was made responsible.

The Environmental Policy Act (Act 247, 1974) established as a policy of the State the conservation of natural resources and required that all agencies consider in the development of their programs a number of guidelines (HRS 344.4). Among these guidelines is: "Protect the shorelines of the State from encroachment of man-made improvements, structures, and activities."

The Shoreline Protection Act (Act 176, 1975) repeated this guideline and provided much greater detail for the management of the coastal zone and, in particular, special management areas to be established by the counties along the shoreline.

The shoreline was defined as in the Shoreline Setback Act, but in place of the 20 to 40 foot widths of the shoreline setback areas, the new Act required that the special management areas extend at least 100 yards inland. The shoreline definition and the requirement are retained in the present Coastal Zone Management Law (HRS 205A-(10); 205A 22-(5)).

The findings of the Shoreline Protection Act (HRS 205A-21) include the recognition that special controls on development were necessary:

> to ensure that adequate access, by dedication or other means, to public owned or used beaches, recreation areas, and natural reserves is provided.

Constitutional provision regarding public trust

Although there is no Hawaiian statutory declaration of the public trust doctrine that the State Supreme Court held in Sotomura (1973) to support public ownership of lands seaward of the high water mark, the public trust concept has now been recognized in the State Constitution in a new section adopted in 1978. This section, replacing the first in the article on Conservation, Control and Development of Resources (now Article XI) reads as follows:

> Section 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.
>
> All public natural resources are held in trust by the State for the benefit of the people.

Natural resources may well include land, but it should be noted that in, this section, the public trust doctrine is applied only to those natural resources that are public and not to those that are privately owned.

Administrative provisions and practices

In the absence of clear and complete legislative determinations in makai boundary issues, the courts have in some cases leaned on administrative regulations and decisions as indicative of custom and public policy. For this reason, I have summarized here pertinent practices of Hawaiian Government Survey and its successors, regulations of the State Land Use Commission, and opinions of the Attorney General of the Territory of Hawaii.

Government Survey practices

Since its establishment in 1870 (Alexander, 1889; Lyons, 1903), the Hawaiian Government Survey, now the Survey Division of the State Department of Accounting and General Services, has had as its primary functions, provision of the basic overall surveys necessary to permit correlation of the boundary surveys of individual land parcels and provision of boundary surveys of public lands. As was pointed out by Justice Marumoto in his dissent in Ashford (1968), the location of the makai boundary of the public lands is not directly pertinent to the location of the makai boundaries of private lands, because the shores seaward of the public lands are also part of the public domain. However, the courts have considered Survey Office policies with respect to public lands pertinent to determining the makai boundaries of private lands. Furthermore, since the establishment of the Land Court, the Territorial Surveyor and his successor the State Surveyor have been called on to check the makai boundaries of parcels for which registration in the Court is sought. The State Surveyor is called upon now, in addition, to check makai boundaries in other cases, for example proposals for subdivision within the shoreline setback area of each of the counties. Hence the policies of the Survey Office are of considerable interest here.

This summary of the Survey Office policies is based on testimony recorded in the published decisions of the Supreme Court cases reviewed in this report, rather than on personal research. The testimony, although constituting an incomplete record, is sufficient to indicate substantial changes in policy with time.

According to A.C. Alexander, who was later the head of the Survey, when he joined the Survey in 1882 he was instructed by his father, W.D. Alexander, the first head of the Survey, to consider that the makai boundary was the line of "ordinary" high tide, although it was not considered necessary to determine tidal boundaries exactly (Decision on Land Court Application 1225, 1925, quoted in Marumoto dissent, Ashford, 1968). This practice was continued, according to Alexander, for at least 58 years, in other words until 1940.

However, according to James Dunn, former State Surveyor, when he first joined the Survey as rodman in 1920, the high water mark on government lands (presumably regarded as the makai boundary of these lands) was usually located at the edge of vegetation and this practice continued in general until 1953, although in 1932 the Attorney General had advised in writing that the mean high water line should be used "in locating the boundary between private land and public land on a rocky Kona coast." In 1953, on the oral advice of the then Attorney General, the practice was changed to the use of the debris line in locating high water mark (Marumoto dissent, Ashford, 1968).

Dunn's testimony does not indicate whether the Survey actually used the mean high water line in the makai boundary survey of the Kona coast land in question in 1932, or in the makai boundary surveys of any other private lands. It is possible that the Survey continued to use the ordinary high tide line or its more precise equivalent, the mean high tide line, as the makai boundary of private lands, as indicated by Alexander, even while the vegetation line was used when surveying public lands.

In further testimony concerning the debris line used as the high water mark in practice after 1953, Dunn stated:

> ...during high stormy weather, the waves wash all the way up to the vegetation line and then the vegetation line, debris line become one line but we don't use this line. We use the line that is left by ordinary high tide which is farther down the...beach near the edge of the water.

From the Supreme Court decision in Castle (1973), it appears that the State Surveyor considered the high water mark the makai boundary of the Castle land, because he had noted that the high water mark lay inland of the boundary when the map of the Castle parcels, which was submitted to the Land Court in 1971, was submitted to him for verification. It is not clear to what high water mark the surveyor was referring, but it would appear that it was a vegetation or debris line. It may be pertinent that in 1969, on the basis of the decision of the Supreme Court in Ashford (1968), the County Surveyor of Hawaii County, followed a debris line in laying out what he considered the makai boundary of the Sotomura land in Puna (Sotomura, 1973).

However, it is clear from Sanborn (1977), that the State Surveyor initially refused to certify a map that showed, as the makai boundary of the Sanborn land, a line that was not the edge of vegetation and appealed a decision by the Land Court that the inconsistent line, and not the vegetation line, was the makai boundary.

Land Use Commission regulations

Reference has been made to the requirement of the Land Use Act (Act 205, 1963) that certain beach and other open space areas be included in the Conservation Land Use District, and the requirement in the Shoreline Setback Act (Act 136, 1970) that the Land Use Commission establish setback lines inland of the "shoreline" defined in that Act.

In its Regulations concerning Conservation District boundaries (Reg. 2-2 (3)), the Land Use Commission has provided that:

> (f) Land having an elevation below the maximum inland line of the zone of wave action, and marine waters, fish ponds and tide pools of the State shall be included in this District unless otherwise designated on the district maps.

The zone of wave action is defined as follows (Reg. 1-4(29)):

> That portion of the shore lying between the sea and any visible mark which indicates the farthest extent to which the maximum annual wave advances inland including, but not limited to, the vegetation line or line of debris, the crest of the sand or dune line, or the rocky shore.

The shoreline setback lines established by the Land Use Commission are (Reg. 8-1):

> ...40 feet inland from the upper reaches of the wash of waves other than storm or tidal waves, usually evidenced by the edge of vegetation growth, except that such lines shall be 20 feet on [parcels of land that have less than certain total or buildable areas or extend a certain distance inland as measured from the shoreline].

The line of the "upper reaches of the wash of waves" referred to in this last regulation is identical to the "shoreline" as defined in the Shoreline Setback Act, but not necessarily to the inland boundary of the Conservation Land Use District despite the fact that both are wave wash lines and both may be indicated by vegetation lines. The Conservation District boundary represents the limit of "annual wave advances." This limit would be reached by normal annual storms, whereas storm waves are excluded from the waves whose wash defines the "shoreline." The dune crest, which is considered in the Conservation District boundary definition to indicate the limit of wave action does not actually do so. Dunes are formed by wind action, the crests of dune ridges along the shore are normally well above the annual wave-wash line, and the crests of some of the dune ridges have probably not been reached even by the highest historic tsunami.

Opinions of the Attorneys General

Reference has already been made in the discussion of the practices of the Government Survey to the 1932 advice of the Attorney General of the Territory of Hawaii that the mean high water line should be used in locating the makai boundary of private land on the Kona coast. I do not have convenient access to indexes to all of the opinions of the various Attorneys General of the Territory and State, but from indexes to the opinions they issued between 1908 and 1928, I have found four concerning makai boundaries.

Opinion 559, issued in October 1916 at the request of the Board of Harbor Commissioners, dealt with a wharf that had been built at Kealia, Kauai by the private owner of the littoral land without approval from the Board. The opinion referred to the cases of Territory v. Liliuokalani (1902) and Territory v. Kerr (1905) as well as mainland United States cases. Opinion 559 recognized, in Fitch's opinion in Territory v. Liliuokalani (1902) concerning the implication that a littoral proprietor had the right to construct a wharf to navigable water, and in the Supreme Court's decision in Territory v. Kerr (1905), an uncertainty whether the Court considered Kerr's seawall illegal only because it was a wall not a wharf. However, in accordance with Act 169 (1915), the Attorney General held that the Territory had the right to remove or take over any wharf constructed by a littoral proprietor seaward of the high water mark if the land of the proprietor was limited to an area inland of that mark.

In Opinion 1117, issued in February 1924, the Commissioner of Public Lands was advised concerning the makai boundary of a parcel belonging to the Territory on the waterfront of Hana Harbor, Maui. The parcel had been covered by two grants, the second, made in 1852, covering somewhat more land than the first, made in 1851. There were both Hawaiian and English versions of the first grant. The English version described the makai boundary of the grant as beginning at a post "five rods distant from high water mark and running along the harbor five rods distant following certain courses and distances." In the Hawaiian version, the part of the boundary beginning at the post was described as "5 roda mai ka lihi kai nui a e holo [the same courses and distances] ma ka lihi kai nui mai." The makai boundary description in the second grant, which was in Hawaiian only, was similar to that in the Hawaiian version of the first.

It had been suggested that "ka lihikai nui" meant at the edge of deep water, and specifically water deep enough to float a canoe. However, the Attorney General considered that the English version of the grant indicated the intention in both grants. "Thus it seems that "kai nui" was used as is "kai piha" for full or high tide, and "lihi" as a boundary line, the two together meaning the mark on the rock made by the sea at high tide."

The second grant had used the term "kahakai" in describing another part of the boundary. The Attorney General surmised that this term was used with reference to a beach whereas "lihikai" referred to a sheer rocky coast.

In Opinion 1589, issued in September 1932, the Territorial Surveyor was advised concerning the meaning of the terms "sea", "seashore", "high water", and "high water mark" when used as makai boundary descriptors. In the opinion, it was considered that grants to the "sea" were grants to high water mark; that the only question concerned what constituted high water mark; and that common law usage of this term had not been displaced by Hawaiian judicial precedent or Hawaiian usage.

The opinion called attention to the fact that, in Halstead v. Gay (1889), the Court had noted that the difference between high water and low water was small. The Attorney General concluded from this that the Court "did not feel that the uppermost reaches of the extreme tides should be considered, inasmuch as the difference between this point and low water mark would in many instances be great, particularly where the tides are affected by wind and wave currents."

Note was also taken of Hawaii Supreme Court's comment in Brown v. Spreckels (1902) that the term "beach" had been used "without any particular reference to where ordinary high tide was," and of the Courts' decision in Territory v. Kerr (1905) which the

Attorney General considered to indicate adoption of the U.S. Supreme Court doctrine that the high water mark was defined by the "highest regular tide."

On the basis of Act 169 (1915), which gave the Board of Harbor Commissioners jurisdiction over "all ocean shores below mean high water mark," and the Congressional approval of this Act, the Attorney General stated:

> It seems fairly arguable that the local legislature, as well as Congress, considered the boundary line of private properties bounded by the sea to be along the mean high water mark, it being hardly conceivable that it was intended that there should be narrow strips of land under the control of the Commissioner of Public Lands above the mean high water mark and reaching to the high high water mark or the uppermost reaches of the tides.

From consideration of the above indications of usage and of a number of mainland United States cases and one Puerto Rico case decided in a federal court, the Attorney General concluded that:

> The common law applicable to this point has been ascertained by English and American decisions as the controlling boundary of land granted "to the sea" or "to high water mark", is either "mean high water mark," or "the limit reached by the neap tides, unaffected by wind or waves." This definitely eliminates from consideration "the uppermost reaches of the tide", "the point as far landward as the tide flows", the equinoctial and spring tides and the effect of wind waves.

Opinion 1644, addressed to the Territorial Surveyor in 1936, dealt with a makai boundary on a shore that had gradually receded. In noting that the doctrine of accretion had been adopted in Halstead v. Gay (1889), the Surveyor was advised that, in the case of erosion, unless the boundary were defined by metes and bounds, it should be considered to shift landward. The opinion thus anticipated Sotomura (1973) in considering that the doctrine of erosion should also be adopted. This opinion repeated the advice in Opinion 1589 as to locating the high water mark.

In Opinion 1669, issued in February 1939, the Commissioner of Public Lands was advised that the fishponds were to be regarded as parts of the ahupuaas to which they were appurtenant, and the makai boundaries of these ahupuaas should be considered the outer walls of the fishponds.

Two 1958 letters from the Attorney General's office that were brought to my attention by C.R. Ashford are of interest even though they were not identified formally as opinions.

One, dated 7 May 1958, was addressed to Mr. Louis P. Price, care of Pacific Concrete and Rock Company, Ltd., in Honolulu. It was written in response to a question regarding the right to take sand from the beach fronting a lot in Waianae. This lot was part of a Mahele Award whose makai boundary was described as running along the seashore. On the basis of this description, the Deputy Attorney General advised that the "rights to sand above highwater line on the beach" were owned by the owners of the lot.

The second, dated 24 November 1958, was addressed to the Honolulu County Fishery Advisory Board, care of Board of Agriculture and Forestry. In it the Deputy Attorney General responded to several questions.

Concerning the public ownership of beaches, the letter indicated that "generally speaking the beach area between the water's edge and the high water mark is public" but that there were two possible major exceptions to the right of the public to use it:

(i) where the beach area is under federal jurisdiction or "where the makai boundary of the private property abutting the sea extends to the reef, or low water mark, or as far as a man can wade and the like";

(ii) where the right of the public to fish is subject to the rules and regulations of Territorial agencies.

"Just what constitutes the high water mark on any beach", the letter commented, "is generally a question more properly directed to an engineer than a lawyer". The letter then cited Opinion 1644 to the effect that "under our law" the high water mark "is the 'mean' or average high water mark and not necessarily the highest point reached on the beach by the water." Reference was also made to the Act 169 (1915) placing the shores below mean high water mark under the control of the Territorial Board of Harbor Commissioners, and to Opinions 559 and 1589.

Concerning accretion and erosion, the letter cited the conclusions of Opinion 1644. It advised, however, that if a shore either advanced or retreated abruptly, the doctrines of accretion and erosion would not apply. It also advised that, if the makai boundary were defined by metes-and-bounds, the boundary would not shift with the shore. (This last part of the opinion has been negated by the Supreme Court's Sanborn (1977) decision.)

Concerning the public right of access along the shoreline where there was a sea wall, the letter cited Territory v. Kerr (1905), but indicated that where the owner of a parcel extending to high water mark constructed a sea wall mauka of that mark, the fact of unreasonable encroachment on the public right would have to be determined in the individual case.

The first of the possible exceptions to the public right of use of the beach seaward of the high water mark noted in this letter indicates that, at least in 1958, the Attorney General's Office considered that all makai boundaries did not correspond to the same physical feature or tide line. The same letter and Opinion 1644 indicated that the Office recognized that makai boundaries were liable to shifts seaward by accretion, in accordance with the Supreme Court's decision in Halstead v. Gay (1889), and that the Office considered that they might shift landward by erosion also, anticipating the Court's decision in Sotomura (1977).

Concerning the interpretation of makai boundaries otherwise, at least to the extent they are ambiguously described by terms such as "sea" or "seashore", it is clear that, from time to time the Attorney General's Office used in its Opinions and letters of advice a variety of terms:

(a) "high water mark" undefined (Opinion 559, 1916);

(b) "high water mark" defined as "mean high water mark" (Opinion 1589, 1932; Opinion 1644, 1936; advice to Honolulu Fishery Advisory Committee 1958);

(c) "high water mark" defined as a neap high tide line (Opinion 1589, 1932; Opinion 1644, 1936);

(d) "high water mark" defined as the "mean high tide line" (advice to Survey Office, 1932);

(e) "highwater line" (advice to Price, 1958);

(f) "mark on the rock made by the sea at high tide" (Opinion 1117, 1924).

Taken together, most of the opinions and letters of advice suggest that ambiguous makai boundaries, at least, should be interpreted as following a "high water mark" and that this mark was equivalent to some high tide line.

In Opinion 1589 (1932), the Office recognized two alternative equivalents of this "mark":

(i) the "mean high water mark", by which the Office seems to have meant the "mean high tide line" to which it equated "high water mark" in its advice to the Honolulu County Fishery Advisory Committee in the same year; and

(ii) a neap high tide line.

The Office seems to have recognized that these lines could not be identical, but not that the second was still ambiguous unless qualified for example as the "mean neap high tide line."

In addition to this ambiguity, and the confusion resulting simply from the variety of terms used, there are other evidences of incomplete understanding of the effects of tides and waves and of the legal status of the terminology. Four are worthy of note:

(1) The reference, in the 1958 letter to the Honolulu County Fishery Advisory Committee, to the public ownership of the "area between the water's edge and the high water mark" seems to overlook the fact pointed out by Dunn (cited by Marumoto in his dissent in Ashford, 1968) that the effect of the waves is that the actual landward edge of the water, although quite variable, is at most times and on most shores landward, not seaward of the mean high tide line. This edge is even farther landward of the mean neap high tide line.

(2) The interpretation of "ka lihikai nui" in Opinion 1117 as "the mark on the rock made by the sea at high tide" seems to refer to a visible mark, and if so one made by the waves at high tide and not a high tide line. This interpretation may be an indication that the Attorney General's Office in 1924 applied the same difference in standards to government and private parcels as was then applied by the Survey Office. Alternatively, "ka lihikai nui" might have been considered an exception to the makai boundaries subject to the usual interpretation, together with the "reef", "low water mark," and "as far as a man can wade."

(3) In advice in the 1958 letter to the Honolulu County Fishery Advisory Committee that, if a makai boundary were described in a survey by metes and bounds it would not shift with accretion or erosion, the Attorney General's Office seems to have overlooked the decision in McCandless v. Du Roi (1955), later reinforced in Castle (1973), concerning the relative authority of a boundary description in terms of physical features or a tide line and a survey of the boundary by metes-and-bounds.

(4) The supposition in the 1958 letter to Price that the interpretation of the "high water mark" as a "mean high water mark" was settled in Hawaiian law does not seem supported. In Sanborn (1977), the Supreme Court found that, prior to 1951 at least, there had been no legal definition of "high water mark" in Hawaii, and there seems to have been no authoritative definition of the term subsequently until, in Sanborn, the Court defined it as the upper reaches of wave wash.

Waikiki Beach reclamation agreements

Other administrative actions that are especially worthy of mention in relation to makai boundaries are the agreements made between the Territory and the owners of land at Waikiki prior to the Territory undertaking a major beach enlargement project. Two of the agreements were made in October 1928. One involved the Bishop Estate, the other all other owners of Waikiki beachfront property. In both the enlargement was described in relation to the "present line of mean high water mark," and the property owners agreed to keep areas within 75 feet of the "mean high water mark" clear of structures for public use. The existing boundaries were defined by azimuths and distances described as "running along high water mark."

However, a third agreement was made in July 1929 in correction. In this agreement, the azimuths and distances of the boundaries "along high water mark along the sea shore" for two of the properties were amended, and for two more of the properties the boundaries were defined by azimuths and distances "along low water mark."

The agreements apparently equated "high water mark," "mean high water mark," and "line of high water mark" and recognized the line to which these terms applied as the makai boundary of all of the properties except the two for which the makai boundary was the "low water mark."

VI. MAKAI BOUNDARY DESIDERATA

Several desiderata applying to makai boundaries and their description or interpretation may be perceived in the arguments presented in the cases discussed in Chapters II and III. A few additional desiderata seem obvious, although not pertinent to the arguments in those cases. Because some of the desiderata are pertinent to more than one of the makai boundary issues, and many of the issues involve several desiderata, it seems expedient to identify the desiderata, discuss the relationships among them, and summarize some of the evidences that pertain to them.

The desiderata

For convenience, I will present the desiderata in four groups.

Desiderata relating to conformity with law, usage, intention, policy, and justice

i. Constitutionality. Boundary determinations should not violate Hawaiian or (after 1897) U.S. Constitutional provisions.

ii. Statutory legality. Boundary determinations should be in conformity with any pertinent legislative statutes.

iii. Common legality. Boundary determinations should conform to common law (or before 1893 to either common law or civil law principles).

iv. Precedence conformity. Boundaries should be determined in accordance with precedents established in the courts.

v. Intention conformity. An ambiguous boundary description should be interpreted in accordance with the intention of its establishment.

vi. Boundary-practice conformity. An ambiguous boundary description should be interpreted in the light of the practice in boundary establishment customary at the time of its establishment.

vii. Land-use conformity. An ambiguous boundary description should be interpreted in the light of land management concepts customarily applied at the time of its establishment.

viii. Policy conformity. An ambiguous boundary description should be interpreted in the light of public land-management policy at the time of interpretation.

ix. Just equity. An ambiguous boundary description should be interpreted with justice to the owners of the adjacent lands.

Desiderata relating to permanence

i. Legal stability. The position of a boundary, once determined, should not be subject to alteration through changes in legal concepts.

ii. Physical stability. The position of a boundary, once determined, should be subject as little as possible to alteration through natural processes.

iii. Restorability. If lost, a boundary should be capable of being restored in its original position.

Accuracy

i. Definitiveness. The description of a boundary should not be ambiguous.

ii. Precision. The location of a boundary should be determinable to whatever degree of precision is warranted.

Convenience

i. Uniformity. The positions of all boundaries should be determined by the same criteria.

ii. Recognizability. So far as possible, a boundary should be easily recognizable.

Relations among desiderata

Constitutionality, statutory and common legality, and other desiderata

Since the first Hawaiian constitution was adopted in 1840, the existence of legislative bodies and their powers to enact statutes have derived from constitutional provisions. The courts are expected to settle disputes on the basis of constitutional provisions, statutory law, and common law. The power of the courts to rely on the common law is, in turn, authorized by statute. Hence there can be no doubt, I think, that constitutionality takes precedence over all other desiderata, including statutory legality, and that statutory law provisions, in turn, take precedence over common law provisions. There may be a difference in opinion, however, as to the applicability of constitutional provisions to makai boundary issues. Such a difference is reflected in the Federal District Court ruling in Sotomura (1978) that the decision of the State Supreme Court in Sotomura (1973) to change the bases for defining a boundary accepted earlier in an unappealed decision of the Land Court represented an unconstitutional taking without compensation.

In the court decisions in several of the makai boundary cases there was explicit notice of the lack of statutory definitions of makai boundaries. This explicit notice suggests that the courts would respect a statutory definition of a makai boundary if there were one in force at the time the boundary at issue was established. However, the Federal Court decision in Sotomura (1978) suggests to me that a statutory definition adopted later would not be considered to destroy the legal stability of a boundary established earlier.

Common law, civil law, precedents, and usage

The present statute providing that Hawaiian courts may rely on the common law doctrines developed elsewhere (HRS 1-1) and its last preceding equivalent (in the Civil

Code of 1859) seem to indicate clearly that greater weight is to be given to Hawaiian judicial precedents and to customary Hawaiian usage, as well as to Hawaiian statutes, than to common law. Judicial decisions may be based on various combinations of the desiderata I have recognized. However, a decision representing just equity in one case may have little precedential value in deciding another case in which the distribution of equity is different. Similarly, a boundary decision based primarily on the policy of one period should have little precedential value in determining a different boundary at a time when the policy is different. Hence, I suppose that the most appropriate judicial precedents are derived either from customary Hawaiian usage or from common law.

The Organic Act of 1847 recognized, indeed that "the reasonings and analyses of the common law, and of the civil law, may be adopted by any...court... and the principles sustained by such courts when sanctioned by the Supreme Court, shall become incorporated with the common law of the Hawaiian Islands, and shall form an essential ingredient in the civil code... except as the legislative council may by act correct, alter, or abrogate the principles of such abstract judgments...." This statute not only established the relationship between externally developed common law and judicial precedent. It also provided that the courts might rely on principles of civil law in other jurisdictions as well as on common law principles. This provision was continued in the Civil Code of 1859. There was no indication in these statutes as to the relative weight to be given to the common law and civil law. As indicated in the section on statutes concerning applicability of foreign law and Hawaiian custom, the prevailing common law rules and civil law rules pertaining to makai boundaries were different. The provision for reliance on the principles of civil law in other jurisdictions was not dropped until the original version of HRS 1-1 took effect in 1893.

I conclude that, in the long run, among the desiderata relating to common and civil law, precedents, and customary usage: i) Hawaiian usage should have the greatest importance; ii) common law (or, before 1893, civil law) principles should have the next greatest importance; iii) Hawaiian judicial precedents should be derived from customary usage and common (or civil) law elsewhere; and iv) reliance on the precedents should be necessary only in relation to details in which usage and common (or civil) law principles are not clear.

Considerable respect for judicial precedents, including precedents in other states and in England as well as precedents in Hawaii, is indicated in the decisions in the makai boundary cases discussed. Nevertheless, in at least one way the Hawaii Supreme Court decisions in Ashford (1946), Sotomura (1973), and Sanborn (1977) are not in keeping with the combination of precedents of the same Court. In the three cases named, the Court decided that "high water mark," as used in makai boundary descriptions or interpretations of such descriptions, meant an upper wave wash line marked by the vegetation line. In Halstead v. Gay (1889), the Court considered that a boundary description interpreted as the "high water mark" referred to some line that must have been seaward of the vegetation line. In Ashford, which established the new precedent, there was disagreement even among the Supreme Court justices as to what Hawaiian customary usage had been. However, it is clear that the majority of the Court considered such usage the basis for the new precedent. Hence, at least with respect to a makai boundary issue common to Ashford, Sotomura, Sanborn, and Halstead v. Gay, the Court gave greater weight to Hawaiian usage than to its own precedent.

Intention and usage: Boundary practice and land use

What the term "usage" covers in the Organic Act of 1847 and in HRS 1-1, (and the term "custom" covers in the Civil Code of 1859) is not clear from the statutes. However, a comment by Justice Marumoto in Ashford (1968) suggests what should be covered even though he made the comment in his dissenting opinion. Ashford, it will be recalled, dealt with the makai boundaries of lands that were uncertain "because the intention of the King and his ministers was not precisely expressed" in the grants. "In this situation" according to Marumoto, "the task of the court is to arrive at a reasonable conclusion as to their intention upon consideration of relevant factors and to treat such conclusion as their intention." The usages to which reference was made in Ashford were those that were considered relevant to discovering that intention. In the interpretation of an ambiguous boundary, then, conformity with the original intention in its establishment, to the extent this can be determined, is in itself a desideratum. To it I have added conformity to two different kinds of usage that may be of help in determining the probable intention.

In Zimring (1970a) the State Supreme Court followed a precedent established in a 1963 case (De Freitas v. Trustees of Campbell Estate, 46 Haw 425) in ruling that "the Hawaiian usage mentioned in HRS 1-1 is usage which predated November 25, 1892," the date of passage of the Act that is now represented in HRS 1-1. In Zimring (1977) the Court held further (by agreeing with the trial court) that, to be relevant to a boundary, usage had to date from some time during or after 1846 "when private land ownership originated in Hawaii." In this case the Court noted that "...there was evidence adduced at trial as to pre-Mahele practice...", but indicated that it would have given such evidence little weight.

The Court thus made a distinction between: i) the practices in boundary description and the interpretation of boundary descriptors that were customary at the time of the establishment of a boundary at issue; and ii) a pre-existing distinction in land-use management that the boundary at issue might have been intended to reflect.

It is clear that most of the boundaries established as the result of the Mahele and associated land divisions were intended to reflect pre-existing patterns of land-use management. Hence it seems to me that customary land uses and land-management cannot be excluded from the relevant factors bearing on the intention of those who divided lands and thus established boundaries. Evidence as to customary uses of the shorefront area were introduced in Territory v. Liliuokalani (1902) and in Brown v. Spreckels (1908), and clearly taken into account by the Hawaii Supreme Court in the latter case.

I have, therefore, included both boundary-practice conformity and land-use conformity in my list of desiderata, considering both contemporary boundary practice and contemporary land-use to be usage relevant to determining the intention in the initial establishment of a boundary.

Usage and policy

Usages may change from time to time--so may policies; and between the official policies of a time and the actual customs of that time, including even official practices, there may be differences. Policy statements have, however, been included in the arguments in makai boundary statements as indications of custom.

I list policy conformity as one of the desiderata relating to conformity with law, usage, policy and justice, but as one separate from the desiderata of conformity to boundary practice and land-use (usage). I make the distinction because, in reaching its decision in Sotomura (1973) and in Zimring (1977) the State Supreme Court leaned explicitly on public policy per se, or at least on what it considered public policy to be. Whereas the usage to which reference has been made in makai boundary cases is usage customary at the time of boundary establishment, the policy referred to in Sotomura and Zimring is modern public policy, that is policy at the time when interpretation of a boundary is necessary.

Although modern public policy, as interpreted by the Supreme Court, was thus used in determining where makai boundaries should be in the three most recent major cases and was seen retroactively to have been influential in the Ashford case, the policy arguments were buttressed by other arguments. The extent of buttressing suggests that modern public policy has been regarded, even by the State Supreme Court in these recent cases, as a desideratum for boundary interpretation that is to be given less weight than most of the other desiderata.

It should be noted that, to a considerable extent, the State can regulate even the use of private land in accordance with public policy, and has the right to obtain title to private land by condemnation where necessary to provide for public use. Hence implementation of public policy does not require that the Courts disregard original intentions in makai boundary establishment or disregard the desideratum of legal stability.

For these reasons and because, so far as I know, there is no statutory authority for the Court to rely on public policy, I consider that much less weight should be given to this desideratum than to those indicated by HRS 1-1.

Equity and policy conformity

I include equity in the group of desiderata pertaining to conformity with law, usage, policy and justice for much the same reason that I include policy conformity. In Zimring (1977) the court explicitly addressed "equitable principles" that, I assume, apply to decisions as to what is just. In my understanding, the Hawaiian courts are expected to consider what is just as defined by the combination of constitutional and statutory provisions, judicial precedents, customary usage, and common law as indicated by the foregoing discussion. Hence, in my understanding, the desideratum of justice applies in deciding a property boundary question only to the extent that: (i) the question is not settled by the combination of constitutional, statutory, and common law; (ii) no original intention with respect to the particular question and the particular boundary can be determined from customary usage or otherwise; and (iii) judicial precedents do not apply to the particular question. Even in this understanding, the decision as to what is just involves deep philosophic questions. In particular, a case involving the makai boundary of a privately owned land, involves the balance between public policy and private equity.

In Zimring (1977) the Supreme Court referred to the "public at large" as "the original and ultimate owner of all Hawaiian land." In the theoretical sense that the powers of the moi and alii nui derived from the people, the public at large might be said to have been the original owner of the land. However, the freedom with which the moi and alii nui could displace people from the lands they had used is inconsistent with the concept of public ownership of the land except as, in theory, the people might have revolted and replaced the king and chiefs. The "Bill of Rights" of 1839 and the Constitution of 1840 replaced the previous feudal concept and provided that the King held

all lands, not as his private property, but as the Sovereign representing the public at large. The concept of land ownership as such was first applied in the Organic Act of 1846, and land ownership came about only through the Mahele of 1848 and the separation of government from crown lands the day after the Mahele was completed.

The public at large might similarly be said to be the ultimate owner of all the land in the sense that all power of the State rests in the people. However, in the sense that ownership is distinct from sovereignity, a major revision of both the Hawaiian and federal constitution is presumed in the Court's statement of ultimate public ownership.

Thorough exploration of the general philosophic questions would be out of place in this report. Furthermore, decisions representing the balance between equity and public policy must be made on a case-by-case basis. However, in discussing Zimring in relation to the issue of the boundary consequence of natural shore shifts, I will refer to a very similar case in which the U.S. Supreme Court reached a decision opposite to that reached by the Hawaii Supreme Court on the basis of a different philosophy concerning the balance of equity and public policy.

There is a special aspect of equity that does not seem to have been given as much consideration as it might in some of the cases discussed. It applies to the redetermination of a makai boundary where the shore has advanced or retreated since the establishment of the original boundary. In discussing this aspect later, I will refer to it as the aspect of symmetry.

Permanence: Physical and legal stability, and recoverability

The legal stability of the boundary definition accepted by the Land Court was the basis for the conclusion by the Federal District Court in Sotomura (1978) that the change to the boundary defined in the State Supreme Court decision in Sotomura (1973) constituted an unconstitutional taking.

Physical stability was an important part of the rationale in the choice among boundary definitions in Sotomura (1973) and in Sanborn (1977).

Recoverability is a desideratum whose consideration seems not to have been needed in any of the cases discussed, but an obvious one.

Although strictly speaking recoverability is only important in the case of a boundary that is not permanently marked, I have included all three of these desiderata under "permanence."

Legal stability and precedent conformity

The similarity of legal stability and conformity with judicial precedent suggests that I should explain that in using legal stability I refer to retaining the stability of a particular boundary in spite of changing legal concepts, whereas in using precedent conformity I refer to the retention of stability of the legal concepts themselves.

Under the principle of res judicata, the position of a boundary, once authoritatively determined, should not be altered in spite of changes in judicial concepts.

Accuracy: Definitiveness and precision

The accuracy with which, from its description, a boundary may be located on the ground, is slight if the definition is either ambiguous or refers to a feature that cannot be located with precision.

Most of the makai boundary issues in the cases I have discussed have arisen from ambiguities of boundary descriptions. The desideratum of precision is one that Justice Marumoto especially stressed in his dissent in Ashford.

Precision and physical stability

In the combination of the opinions expressed in Ashford (1968) and in Sotomura (1973) there is clear recognition of both the desideratum of precision and the desideratum of physical stability.

The majority of the State Supreme Court ruled in Ashford that the makai boundary "ma ke kai" was to be interpreted as following "along the upper reaches of the wash of waves, usually evidenced by the edge of vegetation or a line of debris left by the wash of waves". Justice Marumoto in his dissent held that this ruling represented "a practice primitive in concept and haphazard in application and result, which the U.S. Supreme Court rejected for use by the federal government, and to reject for use in this state a practice scientific in concept, uniform in application and precise in result, which the U.S. Supreme Court approved for use by the federal government."

In Sotomura, the majority of the court chose the vegetation line as the feature marking the "upper reaches of the wash of waves", rather than the debris line because: "...while the debris line may change from day to day or from season to season, the vegetation line is a more permanent monument, is growth limited by the year's highest wash of waves." It is of no significance to the issue here addressed that the boundary to be interpreted in Sotomura was the high water mark rather than merely "ma ke kai" as in Ashford.

In neither the opinions cited above nor in others has the Supreme Court recognized that precision and stability are mutually incompatible desiderata when applied to makai boundaries on shores that are subject to natural shifts in position such as beaches.

Almost all beaches in Hawaii are subject to significant seasonal shifts in position, and most of them have either retreated or advanced over the long term (Cox, 1978). Seasonal shifts were recognized in Klausmeyer v. Makaha (1956) and in Sanborn (1977), and progressive shifts in all of the cases to which the doctrines of erosion or accretion were applied. A line that may be precisely located on the face of or at the top of a beach is of little value if its position changes with time as the result of shifts in the beach front.

Although a surveyed line may be located with great precision, such a line will cease to have even validity on a beach that is subject to erosion or accretion. A tide line, such as the line of mean high tide may be established with any desired precision. If a tide line is a valid boundary, it will not lose its validity with erosion or accretion. It will, however, shift in horizontal position. Lines established on the basis of natural features may be more stable or less stable in position than the tide lines. The debris line lowest on a beach face, for example may shift with every successively higher tide, but the uppermost debris line, the vegetation line, and the crest of the beach berm are much more stable than any tide line on the beach.

Precision has much greater importance, relative to stability, when applied to a makai boundary on a solid-rock shore, simply because a rock shore is more stable than a beach. Unless there is subsidence or uplift of the coast or modification of the coast by volcanism, and except as the lowest debris line on such a shore is subject to some of the same instability as the lowest debris line on a beach, the uppermost debris line, the vegetation line, a tide line, and a survey line on a rocky shore are all relatively stable. Among these a tide line may be located with the greatest precision. However, rocky shores, as well as beaches may shift with coastal subsidence or uplift or as a result of volcanic processes, as in Zimring. If the positions of makai boundaries change with the shifts in shores resulting from these processes, the only advantage of a tide line on a rocky shore subject to such shifts is the precision with which it can be relocated after the shift.

One might argue that makai boundaries should be interpreted as tide lines for the sake of precision on rocky coasts and interpreted as vegetation lines for the sake of stability on beaches, but this would not be in accord with the desideratum of uniformity, and would even require non-uniform interpretation of different parts of the makai boundary of a single parcel of land that is fronted in part by a beach and in part by a rocky shore.

Given a choice in interpretation, boundary stability seems obviously to be of much greater importance overall than boundary precision.

Uniformity and recognizability

The decisions of the State Supreme Court in Ashford, Sotomura, and Sanborn reflect an obvious intent to apply a uniform interpretation to all makai boundaries in Hawaii. Justice Marumoto's dissent in Ashford suggests that he also would have liked to adopt a uniform interpretation, although a different one than that preferred by the majority of the Court. Uniformity would be an obvious desideratum in makai boundaries, but the possibility of achievement of uniformity represents one of the principal makai boundary issues.

Uniformity would be desirable primarily for convenience. Another desideratum related to convenience is the easy recognizability of boundaries. This, however, is a desideratum that does not seem to have been considered by the courts.

Precision

I have earlier commented on the relationship between precision and physical stability. Some comments are due also on the intrinsic value of precision.

Precision in the location of a property boundary is of slight importance in determining land use. Land use in areas along the shore is determined not by property boundaries but by regulations applying to the conservation district, whose inland boundary has been established by the Land Use Commission, and to the shoreline setback area and special management area, whose extent is defined on the basis of the "shoreline" as defined by statute.

Precision in the location of a boundary of private land is of importance primarily in relation to establishing the area and hence the value of the land. The taxes paid on the land depend upon its value, and if a transfer of title is contemplated, the value is of

importance to both the present and prospective owners. The values in both cases include not only the value of the land itself but also the value of the improvements on it, and the value of the land itself depends not only on the area but also the character of the land. Greater uncertainties in the overall value of a shorefront parcel generally attach to the estimation of the value of the improvements and to the estimation of the character of the land than to the uncertainties in land area that would result from slight uncertainties as to the location of its makai boundary.

It is notable that, although tide lines are locatable to any desired degree of precision, it would seem from testimony considered in Klausmeyer v. Makaha (1956), Ashford (1968), and Sotomura (1978) that precise local determinations have never been made of the positions of the tide lines.

The precise determination of the horizontal position of a tide line at a particular site would have to be based on the determination of the vertical position of the tide line from tide gaging on that site. Local variations in the level of the various tide planes may easily exceed a few tenths of feet, especially where a parcel is fronted by a reef, and the third order leveling that is the best that is available on many coasts may be subject to errors of comparable magnitude if it is carried for several miles from a tide gage. On a shorefront with, say, a 10 percent slope, an error of, say, 0.2 feet in determining the vertical position of a tide surface will result in an error of 2 feet in the determination of the corresponding tide line.

The conclusion seems inescapable that precision in locating a makai boundary more closely than about 2 feet is of very small importance in determining the value of the parcel bounded.

Contemporary usage

Pertinence of evidence

In the earlier section on the relations among usage, boundary practice, and land use contemporary with boundary establishment, I have already discussed the question of pertinence of land-use patterns to boundary issues. Another aspect of the question of pertinence must also be recognized--the aspect of the admissability of evidence.

In its decision in Ashford, the State Supreme Court took into account certain "kamaaina testimony" that had not been considered admissible (though recorded) in the trial court, and that Justice Marumoto considered not to meet the criteria that had earlier been established for the admissability of such evidence. In Pulehunui (1879) a "kamaaina" had been defined as a person who, since childhood, had been familiar with the locality.

In contrast, the majority of the Supreme Court in Zimring (1977) refused to take into account testimony that, in the opinion of Judge Vitousek, was as much in accord with the definition of "kamaaina testimony" as that which had been taken into account by the majority in Ashford.

Disagreements as to the admissability of "kamaaina testimony" are, I suppose to be expected, but it seems worth pointing out that there are no persons now living who can testify as "kamaainas," in the sense in Pulehunui, with respect to usage for several decades after 1846, and that, with respect to usage in 1892, access to "kamaaina testimony" in this sense will become impossible with the passage of time. If further

shaping of the law in Hawaii is to be based on Hawaiian usage in and before 1892, as provided by statute, the testimony on such usage will have to be that of experts, not kamaainas.

Customary boundary practices

Many of the arguments concerning usage in boundary establishment that were reflected in the court cases earlier summarized were based on statutory provisions or administrative decisions already discussed, for example the statutes on fishing rights and driftwood collection, the Survey Office practices, the opinions of the Attorneys General, and the Waikiki Beach agreements. Many others concerned the interpretation of ambiguous boundary descriptions. The comments of Victor Houston to be discussed shortly bear on such interpretation, and it is a matter to which I return in discussing the meanings of individual boundary descriptors. Some of the testimony on usage has concerned the differences in level between various tide planes, differences that are easily determinable as facts.

For the most part, the arguments otherwise seem to stem from attempts to find a non-existent uniformity of custom, or at least more generality, than the evidence of changing practices and policies justifies. An exception is presented in the case of the location of the makai property boundary where the land has been extended by a lava flow. It seems settled in Zimring (1977) that there were only two instances in which lava flows resulted in extensions at private lands between 1846 and 1892. In one of these instances, the post-lava flow boundary established by the Boundary Commissioner and in a Royal Patent was at the extended shoreline. In the other, the boundary shown in tax maps was shown at the extended shoreline. The legal significance of the usage was considered questionable in these instances by the majority of the Supreme Court, but it was entirely supportive of the shift of the boundary seaward with the lava-flow extension. Not only were there no instances of retention of the original pre-extension boundaries; there were no undetermined instances. It was simply on the basis of the small number of instances that the Court ruled the governmental action insufficient to establish a usage.

Customary land use in shorefront areas

Claims of customary usage of shorefront areas were presented in Territory v. Liliuokalani (1902) and Brown v. Spreckels (1906). The usages evidenced in Brown v. Spreckels included beaching canoes, drying nets, loading merchandise, piling driftwood, strolling, picnicing, etc. These were taken into account by the Supreme Court in its decision. Among these, beaching canoes, and loading merchandise might reasonably be considered as subject to the right of way, but the rest were not covered in any of the statutes defining shorefront use rights. In contrast, Fitch, in his concurring opinion in Territory v. Liliuokalani (1902) rejected a claim that was advanced by the Territory that there was a right to public bathing at the beach on the ground, holding that such a right had not been defined in any statute.

It cannot be doubted that shorefront areas were used, prior to 1892, not only for the purposes indicated in Brown v. Spreckels, but for swimming, surfboard launching and landing, and body surfing, although formal documentation of any of these may be lacking. Along coasts lacking streams and having only a few fresh waterholes, bathing in the sense of washing the body must be been primarily in the shore waters. Fishing and travel along the shore were, of course, covered by declared rights of shorefront use.

All of these uses, it would seem, might properly be considered bases for the establishment of makai property boundaries, or at least for the recognition of public easements.

Houston's opinions

With respect to shoreline area uses, and even to original intentions in locating shoreline boundaries, some opinions that were expressed by Victor Houston seem to me quite pertinent. Houston was a part-Hawaiian born in California in 1862 (Honolulu Advertiser, 1 August 1951). I do not know when he first moved to Hawaii, but he was appointed from Hawaii to the U.S. Naval Academy, from which he graduated in 1897. During his subsequent service in the Navy, he was in command of a ship manned by members of the Hawaii Naval Reserve in World War I. He retired as Commander, but was later promoted to Captain. Upon his retirement from the Navy he entered politics, and from 1927 to 1933 he served as Delegate to Congress from the Territory of Hawaii. He served subsequently as Chairman of the Hawaiian Homes Commission. He died in 1959.

I first learned of his opinions concerning makai boundaries through an address he made to the Engineering Association of Hawaii in 1946 or a few years later. I had the impression that he was a Registered Land Surveyor in Hawaii, but his knowledge of Hawaiian Land matters may have stemmed from his chairmanship of the Hawaiian Homes Commission and his obvious personal interest. As indicated in his obituary (Honolulu Advertiser, op. cit.), he was regarded as "an expert in Hawaiiana and versed in the Hawaiian language...Always he thought to advance the Hawaiian race and preserve Hawaiian traditions."

I learned of the publication of his opinions from Judge King, to whom I sent a preliminary draft of what is now a part of this report. The publication is in the form of two articles in the Honolulu Advertiser. They seem so pertinent, and are so difficult of access now that, with the permission of the newspaper, I have added them to this report as Appendices A and B. I have already made casual reference to these articles in the report, and will refer to them again in relation to the meanings of certain boundary descriptors. However, attention to some of Houston's opinions is warranted here. Houston's opinions have not, so far as I know, been taken into account in any court, but if the courts are interested in considering all of the "relevant factors" it seems to me they cannot be disregarded.

In the opinion of Houston (1953, 1954), when private property was differentiated from public property, the intent was to place the boundary along the coast between the beach, which was used by the public for transit along the shoreline and for landing canoes, and the back beach, whose uses could appropriately be restricted to private ones such as the storage and repair of canoes. Consistent with this intent, private lands could extend seaward to the beach but not across part of the beach, in other words to the beach crest but not to a line partway down the face of the beach.

To illustrate the importance of the right to haul out canoes on the beach, Houston (1953) referred to testimony introduced in Bishop v. Kala (1889), the case involving the repossession of land at Kaakaukukui, a filled-in reef on the east side of Honolulu Harbor.

In his second article, Houston recognized that "there were some aliis whose land grants went to low tide," but considered that these were the exception and in any case that they were subject to an important reservation that he had discussed in his first article and that I have referred to earlier: "Koe na kuleana o na kanaka." As noted by

Houston, this reservation was interpreted by the Supreme Court in Territory v. Liliuokalani (1902) to mean "reserving however, the people's kuleanas therein, and the kuleanas means only the house lots, taro patches or gardens of the natives." The Court considered that "The words...have no reference to...public rights but can only be referred to the house lots and taro patches and gardens of tenants living on land within the boundaries of the larger tracts of land granted." However, as pointed out by Houston, the original meaning of "kuleana" was a "part, portion, or right in a thing" (Andrews, 1865), or a right, ownership, or interest, (Judd et al. 1945). Only later was the term used for "a small land claim inside another's land" (Andrews, 1865). Houston claimed that the reservation was intended to preserve for the public the right to use the beach, even when the land granted to a private owner included the beach. The reservation was at least intended to preserve, for the tenants of an ahupuaa in common, the right of use of the beach.

In the opinion of Abraham Piiianaia, to whom I have referred earlier, Houston was quite right in claiming that the term "kuleana" was not applied to parcels of land until some time considerably later than the Mahele. Piianaia has indicated a further original meaning of the term not mentioned by Houston--"responsibility" as in "Kou kuleana kuu keiki, kaumaha kona hana hewa me iau": "My son is my responsibility; his wrong doings bear heavily on me". Piianaia has pointed out (personal communication) the importance of the access of the tenants to the beach and its resources, mineral as well as biological.

Houston's discussion of the intended location of the makai boundary with reference to the beach is applicable only to beach-front properties, and particularly sand-beach-front properties. The distinction he made between canoe landing and canoe storage provides guidance in the case of rocky shores only where the shorefronts are smooth enough and have a slope slight enough, and where the water is normally smooth enough, to have permitted the landing of canoes. However, the customary use of the shoreline for public foot traffic suggests the usual intent that the public own, or at least have the right to use, a strip along the shoreline that was suitable for such traffic, at least under normal conditions.

Modern Hawaiian policy

As recognized earlier, in its decisions in Sotomura (1968) and Zimring (1977), the State Supreme Court leaned on what it considered public policy.

The statement of policy in Sotomura was that: "Public policy favors extending public use and ownership to as much of Hawaii's shoreline as is reasonably possible." The only background for this statement indicated in the decision was that "The Ashford 1963 decision was a judicial recognition of a long-standing public use of Hawaii's beaches to an easily recognizable boundary that has refined into a customary right."

The statement of policy in Zimring was that "...equity and public policy demand that [lava flow extensions] inure to the benefit of all the people of Hawaii, in whose behalf the government acts as trustee." In its decision the Court explained the basis for its conclusion in equity, but not the basis in public policy.

Among the statutes I have reviewed, there are several that reflect the intent of preserving public access along as well as to the shoreline, that reserve to the public certain uses of the shorefront, and that provide for governmental regulation of certain shoreline areas, but only one that states a policy of acquiring private shorefront land and

none that announce a policy of acquiring such land other than by condemnation with compensation.

The one statutory provision that states a policy of acquiring private shorefront land is the finding in the Coastal Zone Management Law (HRS 205 A-21) that "special controls on development within an area along the shoreline are necessary to ensure that adequate access, by dedication or other means, public owned or used beaches, recreation areas, and natural resources is provided." What "other means" than dedication may be used to provide access to publicly used beaches, recreation areas, and natural resources that are privately owned is not indicated in the statute, but they would surely include condemnation. In Zimring the Court could have referred to this finding providing some rationale for its decision in the absence of a common law doctrine clearly applicable to lava extensions. In Sotomura the Court could not have referred to this provision because the legislature did not make this finding until it passed the Coastal Zone Management Act of 1975 (Act 176).

The public policy at any time may be considered to be reflected by practices of government agencies or usages allowed or disallowed by such agencies. There have been many instances of the acquisition of shorefront lands by the State and counties for public parks and for beach access by purchase, condemnation, or dedication. In the absence of determinative guidance from desiderata to which greater weight must be given, a case may be made for interpreting an ambiguously described makai boundary of private land as being at the top of the beach, the upper reach of the waves, or the vegetation line, on the basis of the long-standing public policies of ensuring public landing, fishing, and transit along the shoreline. These policies may have roots in the shoreline-use rights of tenants, such as were recognized in early statutes such as the Organic Act of 1846 and the Civil Code of 1859. It is reasonable to assume that, as increasing concentrations of population required use rights in more than local resources, the policies evolved so as to apply to the public in general and not merely the tenants of respective ahupuaas.

However, whatever the weight that may be given to modern public policies in deciding makai boundary issues, the application of the pertinent policies seems confined to the shore itself and routes of access to it. In the absence of a showing of public recreational values in the area of fresh lava back of the post-1955 shorefront at the Zimring land, the finding that public policy required that the Zimring boundary be retained at its pre-1955 position seems without sound rationale.

In the Supreme Court's statement regarding the application of public policy in Zimring that is quoted toward the beginning of this subsection, reference is made to the government's responsibility to act as trustee for all the people of Hawaii. The statement is followed in the Court's decision by further statements concerning the public trust doctrine. This doctrine was also cited by the Court as part of its rationale for its decision in Sotomura (1973), and in that decision it cited King v. OR&L (1899) and Bishop v. Makiko (1940) as precedent applications of the doctrine.

The public trust doctrine seems to be in its strictest sense to apply to land and resources owned by the State, and in the recent amendment of the constitution, as I have indicated earlier it is applied in just this way. In a broader sense, the State is expected to act in public interest even in its regulation of private property, but only to the extent that it has been authorized to do so constitutionally, and the taking of private property without compensation is forbidden in the constitution of both the State and the Nation.

Common law and civil law provisions

Provisions regarding boundaries

I have already referred to the statutory provisions for the adoption in Hawaii of common law principles developed elsewhere, and for the adoption prior to 1893 of the principles of civil law in foreign jurisdictions.

According to Justice Marumoto (in his dissent in Ashford (1968):

> The prevailing rule in common law jurisdictions on the location of the seaward boundary of private lands was that such boundary was along the line of ordinary high tide. On the other hand, the rule in civil law jurisdictions was that the boundary was at the line reached by the highest tide during the winter season.

If the courts had ever formally adopted the common-law rule, ambiguously described makai boundaries would systematically be interpreted as following the line of mean high tide or the line of mean neap high tide (the distinction between these lines will be discussed in the chapter on the meaning of terms used in boundary descriptions). If the courts had formally adopted the civil-law rule, such boundaries might systematically be interpreted as a mean higher high tide line, a mean spring tide line, or perhaps a line at the limit of normal winter wave wash (these lines also will be discussed later).

Neither of the rules seems, however, to have been formally cited as a systematic basis for interpretation of ambiguous makai-boundary descriptions.

Provisions regarding shore shifts

The common law doctrines most extensively used in the makai boundary cases discussed are those relating to the boundary consequences of natural shifts in the positions of shores.

Legal terminology relating to shore shifts was developed principally to cover shifts in the courses and banks of streams, thus applying originally to riparian boundary questions. The principal terms are accretion, avulsion, erosion, reliction, and submergence. These terms apply to littoral boundary questions arising from shorefront shifts of the most common sort, but they do not cover all of the kinds of shifts to which Hawaiian seashores are subject. The definitions of these terms and the statements of the legal doctrines associated with them in this section are based principally on Ludes and Gilbert (1956) and on Patton (1952). In both of these references, there are numerous citations that will be of interest to those concerned with more detail than is presented here.

Erosion is the process of gradual and imperceptible wearing away of land (or soil) by water (as by waves, currents, and tides). Erosion thus results in landward shifts in shorefronts but it applies to such shifts only if they result from the initial process of sedimentation, the removal of material in the form of sediment.

Submergence is the disappearance of land under the water. It thus applies to landward shifts in shorefronts resulting from subsidence.

Accretion, if used in the restricted sense, is the process of gradual and imperceptible addition to land caused by the action of the water in washing up materials. Accretion thus results in seaward shifts in shorefronts. The new land created is referred to as alluvion or simply accretion. The term is sometimes used in a more general sense to include reliction.

Reliction (sometimes dereliction) is the process by which land is uncovered by the gradual recession of the water. The term is also applied to the new land created by the process.

As applied in riparian situations, avulsion is the process by which land on one bank of a stream is suddenly transferred to the other bank, as when the stream abandons one channel and creates another, for instance in cutting across a bend. The term has also been applied to sudden losses of seashore land.

Under the common law doctrine of erosion the owner of the land that is eroded away loses his title to that part of the land eroded. Title is generally lost also by submergence, at least if the submergence is permanent.

Under the common law doctrine of accretion, which applies also to reliction, the owner of the riparian or littoral land against which the accretion occurs gains title to the new land.

However, with avulsion, in common law, there is no change in the position of land boundaries. The owner of land that was before the avulsion on one bank of the stream retains title to that land even though it has been transferred to the opposite bank.

The original rationale for the doctrines of erosion and accretion was that the intent in establishing the ownership of riparian and littoral lands was to place the boundaries, not at permanently fixed positions, but at positions that "would vary from time to time according to the gradual but constant and expected changes in the stream or lake" (Patton, 1952) or the sea. Additional rationale in the case of accretion was to avoid cutting the owner of the originally riparian or littoral land off from the water.

The owner of riparian land may be cut off from the water by avulsion, and the reason for the difference between the treatment of boundaries in the case of accretion and that in the case of avulsion is not clear. However, it seems to be connected with the fact that, although avulsion has occurred repeatedly, it is neither constant nor commonly anticipated, and it was thus treated as an unusual "act of God."

Because of the different treatment of boundaries, the distinction between accretion and erosion, on the one hand, and avulsion, on the other, is of great importance, but that distinction has not been made systematically in the courts. At least with respect to streambank and shoreline shifts due to sedimentation processes, the principal distinguishing criterion suggested by the definitions of the three terms appears to relate to the rapidity of the processes.

The usual standard for determining avulsion is that the action of the water is perceptible "while the change is in process" (Ludes and Gilbert, 1956, under "Waters", Sec. 79). However, changes that would be considered abrupt in the case of some rivers have been considered "gradual and natural in the Missouri and certain other rivers whose banks are unusually subject to disintegration" (Patton, 1952). "Not withstanding the rapidity and suddenness of the change in the channel, as long as the soil is eroded and passes away, so as to become the locus of the river bed, the ordinary rule of erosions

applies" (Ludes and Gilbert, 1956, under "Waters", Sec. 80). A more important distinguishing criterion in the case of stream avulsions appears to be whether the land maintains its integrity when it is transferred from one bank to the other. "In all rivers, when the water makes a new channel by cutting across bends as a result of floods, the change will be considered an avulsion so that no change in boundary lines occurs. But in other cases it has been suggested that the distinction between an avulsion and an accretion lies in the fact that the former is a sudden disruption of a piece of ground from one man's land to another's which may be followed or identified, and the latter is 'that increment which slowly or rapidly results from floods but which is utterly beyond the power of identification. When the facts present a close question, it is held that the change should be presumed to be due to accretion rather than avulsion" (Patton, 1952). "A gravel bed formed during a flood on the bank of a stream is the result of accretion and not an avulsion, even though a gravel bank on the opposite side caved in by the action and was carried away by the action of the water in the direction of the new bank" (Ludes and Gilbert, 1956, under "Waters", p. 76). In a recent case, the rate criterion has been held inapplicable when the sole change was an extension of stream banks (1978 update of Ludes and Gilbert under "Waters", Sec. 79).

As I have noted earlier, equity in the treatment of makai boundaries on shores that have shifted involves an aspect of symmetry. The applicability of this aspect is exemplified in the combination of the doctrines of accretion and erosion and in the doctrine of avulsion as these doctrines apply to riparian boundaries.

Although a river may at one point have a tendency to shift gradually in one direction rather than the other, over its entire course the tendencies are usually balanced, so that there are, in a general way, equal likelihoods of erosion and of accretion to a particular bank. For equity it would seem that there should be symmetry between the chances of loss and chances of gain of land resulting from the shifts. Symmetry is provided if a riparian owner who may gain land by gradual shift in the position of the river should lose land by a shift in the opposite direction. The doctrines of accretion and erosion are symmetrical to each other in this respect.

Where symmetry is provided only by the combination of the doctrines of accretion and erosion, it is provided within the single doctrine of avulsion as applied to riparian boundaries. If a stream suddenly changes its course, transferring land from one bank to the other, symmetry would be satisfied whether the title to the land transferred remains with the original owner, in accordance with the doctrine of avulsion or is transferred to the owner of the originally opposite bank. To the aspect of symmetry I will return when I discuss in greater detail the boundary consequences of shifts of the shore.

VII. RESOLUTION OF THE ISSUES

Having summarized the desiderata pertinent to makai boundary issues, we may now address the issues themselves. In this chapter I discuss in turn each of the issues identified in Chapter IV, and in the case of each indicate how it has been resolved or suggest how it should be resolved.

1. Makai boundary definition authority

In times past, the king or the government might have granted to the owner of a parcel of littoral land lying seaward of an authoritatively defined original makai boundary. Such an additional grant would not have altered the position of the original boundary, but would have made its position moot if the two parcels had been consolidated. In any case, such additional grants are no longer possible. Neither the United States nor the State Constitution would allow the government to take from the private owner of littoral land a strip inland of the authoritatively defined makai boundary except by condemnation for a public purpose, with compensation. If the government were to condemn a strip of land along the shore of a littoral parcel, the action would be essentially a subdivision of the original parcel, and again the original makai boundary would not be altered but would become moot. The legal stability of an authoritatively defined makai boundary would in either case not be threatened. What definitions and interpretations of makai boundaries are authoritative is, however, worthy of discussion.

Although the Mahele was intended to divide the lands of Hawaii in accordance with already existing patterns of land-use management, the boundaries between lands earlier subject to different management authorities and subsequently subject to different ownership were first defined in the awards of the Land Commission of 1846-1855, the Royal Patent Grants issued on Land Court Awards after completion of any required commutation, the decisions of the Boundary Commission established in 1862, the early Royal Patent Grants and later Land Patent Grants to originally government lands, or the Kamehameha Deeds to originally crown lands. In the decision in each of the cases summarized in Chapters II and III in which a makai boundary was at issue, except Haalelea v. Montgomergy (1858), Kelley (1968), Castle (1973), Sotomura (1973, 1978) and Sanborn (1977), reference was made to the earliest boundary definition to be found in one of the above kinds of documents, and in the first two of these, the earliest boundary definition referred to came from deeds that clearly did not convey land seaward of original makai boundaries. The Castle, Sotomura, and Sanborn cases dealt with the makai boundaries of lands that had been registered in the Land Court, and the earliest boundary description to which reference was made in each of those cases was that incorporated at least by reference in the Land Court decree. Although there were arguments in the various cases as to the translation of Hawaiian boundary descriptors and as to the meaning of ambiguous descriptors, it is clear that the courts have considered the original boundary definitions authoritative (to the extent that they were not ambiguous) except in the case of lands registered in the Land Court.

There were arguments as to the resolution of inconsistencies within the original or Land Court boundary definitions, and as to the treatment of boundaries after shifts in the position of the seashores, but except for these and the question associated with Land Court registration, the only question of authority that has been raised was whether, in the light of constitutional or statutory restrictions, the king had the right to convey to others shore lands extending to the more seaward among possible makai boundaries. In Brown v. Spreckels (1902, 1906) it was settled that in the Mahele, Kamehameha III had the

authority to award land to any makai boundary he wished; in Territory v. Liliuokalani (1902), it was settled that Kamehameha V had the right to deed crown land to any makai boundary; and in both cases it was held that the original descriptions in awards, patents, and deeds were authoritative.

Similar questions as to the constitutional or statutory authority of the king, his ministers, or government agencies to award patent, grant, or deed land to some of the more seaward among possible makai boundaries under different circumstances may arise in the future. It is quite beyond the scope of this report to relate all original makai boundary definitions to the circumstances pertaining at the time the definitions were made. However, I will try to deal, as well as a non-attorney can, with the issue regarding authority that is suggested by the special treatment of lands registered in the Land Court.

The fact that no reference was made in the Castle (1973), Sotomura (1973, 1978) and Sanborn (1977) decisions (or in the minority opinions on Castle or Sotomura) to pre-Land Court definitions of the makai boundaries at issue in those cases probably means simply that the boundary descriptions initially accepted by the Land Court were in each case considered by all participants in the cases to be in conformity with the original descriptions. Disregarding for the moment the issue of discrepancies between surveys and verbal descriptions and the issue of boundary treatment after a shift in the seashore, the arguments in each of those cases were phrased in terms of interpretations of what were held to be ambiguous boundary descriptors. If there had been significant differences between the original descriptions and the Land Court descriptions of the makai boundary in any of these cases, one of the opposing parties in the case would surely have referred to the difference to bolster his argument concerning the proper interpretation.

HRS 501-81 provides that the Land Court is not permitted to alter the boundaries of a land parcel in its registration, although it may recognize a change in boundary position resulting from a seashore shift. At least in the absence of fraud, then, a Land Court boundary description appears to be as authoritative as an original description.

In Sotomura, it will be remembered, the Land Court had accepted a makai boundary described as along high water mark and defined by a survey which, as testimony indicated, followed a limu line. The State Supreme Court decided (Sotomura, 1973) that the high water mark should be interpreted as the vegetation line, but the Federal District Court decided that the Land Court's interpretation of the high water mark as the limu line was res judicata.

Unless this last decision is reversed in further proceedings in the case, it appears that, not only the description of a makai boundary, but the interpretation of that description accepted by the Land Court is authoritative unless the Land Court decision is upset on appeal.

To summarize my conclusions: at least in the absence of a semi-permanent shift of the shore, the description of a makai boundary in the award or grant originally creating the boundary is authoritative, to the extent it is not ambiguous, except in the case of the boundary of land that has been registered with the Land Court. In the latter case, the description of the boundary in the application accepted by the Land Court is authoritative, to the extent it is not ambiguous, except perhaps in the case of fraud.

2. Achievement of makai boundary uniformity

In the opinions of the members of the courts considering several of the recent makai boundary cases there are clear evidences of preferences for uniform redefinitions of the boundaries or at least uniform interpretations of original boundary descriptions. In Ashford (1968), Sotomura (1973), and Sanborn (1977), the majority of the Court consistently held that the boundaries were at the upper limit of wave wash. In Ashford the court held that this upper limit was represented by the vegetation or debris line, but in Sotomura the court was more specific that the limit was represented by the vegetation line. The Court's decision in Zimring (1977) was inconsistent with its decision in the three earlier cases in that, after lava flow extension, a boundary should remain at the original shoreline. The only consistency among all four cases was in the maximization of public ownership of land, but this does not represent consistency with respect to the boundaries.

It may be noted that, in his dissents in Ashford and Sotomura, Justice Marumoto clearly favored uniform boundary locations, but at a high water mark defined as a tide line independent of wave wash.

Strictly speaking the decision of the Supreme Court in Ashford (1968) applied solely to makai boundaries of two parcels of not-yet-registered land on Molokai--boundaries that were originally described as "ma ke kai". The concern expressed by Justice Marumoto in his dissenting opinion, that the effect of the decision would not be limited to the case at hand, was justified by the decision of the same Court five years later in Sotomura (1973) which located the boundary of a parcel of previously registered land by reference to the same feature it had used in Ashford, the vegetation line, even though the Land Court had accepted a different basis for the location.

Justice Marumoto's concern was even more justified by the way in which, in Sotomura, the Court described its decision in Ashford. Sotomura, it will be remembered dealt with a parcel that had been registered in the Land Court with a makai boundary at the limu line as a representation of high water mark. In discussing the later survey of the Sotomura land, the Court reported that the surveyor had "located the seaward boundary pursuant to the decision of this court in In re Application of Ashford (1968) that the seaward boundary between private upland and public beach is 'along the upper reaches of the wash of waves, usually evidenced by the edge of vegetation or the line of debris.' " The Court's quotation from Ashford was accurate, but it should be remembered that the ruling in Ashford related to boundaries described as "ma ke kai" and not all boundaries "between private upland and public beach."

With respect to the makai boundary in the Sotomura case itself, the court held that, because there had been erosion and the boundary had to be reestablished: "...we now hold that the new location of the seaward boundary on the ground, as a matter of law, is to be determined by our decision In re Application of Ashford." The court thus not only extended the use of the vegetation line in place of a different line accepted by the Land Court but implied that the "law" should apply much more broadly.

Even if the Court had actually declared in Ashford and again in Sotomura that the makai boundaries of all private lands were at the vegetation line, the declaration would have been dictum except as it related to those boundaries of unregistered parcels that were described as "ma ke kai" and those boundaries of registered parcels that had been subject to erosion. In Sanborn the Court extended the use of a vegetation line redefining the boundary that had been accepted by the Land Court, as in the case of Sotomura, but without the justification of erosion subsequent to the original boundary determination.

The significance of the State Supreme Court decisions in all three cases has been considerably altered by the rejection of its Sotomura (1973) decision by the Federal District Court (Sotomura, 1978). The bases for the rejection included two of the desiderata I have identified:

(1) Legal stability—the basis for the location of the boundary that had been earlier accepted by the Land Court was res judicata; and

(2) Constitutionality—the extent of the shift in the boundary inland to the location proposed by the Supreme Court, other than the extent due to erosion, constituted a taking of private property without just compensation.

Unless the Federal Court decision in Sotomura is reversed on appeal to a higher federal court, it appears that, to promote uniformity, no court can redefine a makai boundary if the redefinition involves a shift landward.

It may be noted incidentally that, in his decision in Sotomura (1978), although Judge Wong recognized that the diversity of makai boundary descriptions, he favored definitions based on tide lines, independent of wave wash, and specifically in the Sotomura case a high tide line as had Justice Marumoto.

In summary, the replacement of one boundary with another is inconsistent with the desideratum of legal stability. In particular, a private property boundary originally cannot be replaced by one lying farther inland without converting to public ownership land which was originally private. As recognized by the Federal Court in Sotomura (1978), this would be unconstitutional. A private property boundary cannot be replaced by one lying farther seaward without converting to private ownership land originally public. This would not be in accord with the public policy expressed in Sotomura (1973) and Zimring (1977) that the shore front seaward of the vegetation line or at least the high water mark should be available for public use. It would also not be in accord with the 1979 Constitutional amendment applying the public trust doctrine to all public natural resources.

I come to the definite conclusion that, at least in the absence of shifts in shore positions, changes in makai boundaries cannot be made for the sake of uniformity either by the courts or by legislation, although there is room for the application of uniformity in the achievement of partial uniformity in the interpretation of ambiguous boundary descriptors.

3. Choice of uniform makai boundary definition

Because there is diversity among makai boundaries, and uniformity cannot be achieved by either the legislature or the courts, the issue as to which boundary definition should be chosen for uniform application is moot.

4. Occurrence and causes of natural shore shifts

Sedimentation processes

Erosion of the shore is a sedimentation process that results in the removal of material from the shore and hence the retreat of the shore landward. The reverse sedimentation process of deposition of material on the shore results in its advance

seaward. The rates of retreat and advance are ordinarily very slow on rocky shores, such as those of lava or hard limestone, but may be very rapid on sand beaches. Most beaches in Hawaii are, indeed, noticeably unstable, being subject to both reversible shifts in position with tides, with weather conditions, seasonally, and over longer periods of time, and to long term trends (Cox, 1978).

The rates of retreat or advance, particularly over short-term intervals, may be quite different at different levels of a beach. Indeed a beach may advance at one level while it is retreating at another. Hence determining whether or not the shore at any place has retreated by erosion or advanced by accretion, over any particular interval of time, can be determined only by comparison of the initial and terminal positions of a particular feature or line that is liable to shift.

Evidences of erosion or accretion were presented in several of the cases that I have discussed. Halstead v. Gay (1889) and Brown v. Spreckels (1902, 1906) dealt with makai boundaries of beachfront property where the shores had advanced seaward. Evidence introduced in Klausmeyer v. Makaha (1956) and in Sanborn (1977) indicated that the beachfronts of the lands in those areas were subject to both erosion and accretion. There was evidence of a shift in the shore in Ashford (1968), in the form of a sketch map included with Justice Marumoto's dissenting opinion that showed seaward boundaries of the lands covered by the Royal Patents lying far seaward of the lines of mean sea level, mean high water, and vegetation line. (The application for Land Court registration applied only to the parcels with seaward boundaries as they existed at the time of application. Hence the fact of erosion was not at issue in Ashford.) Castle (1973) dealt with the makai boundary of land where differences in the position of the shoreline as shown on maps of different dates suggested that the shorefront had retreated landward. Sotomura (1973, 1978) dealt with the makai boundary of land where there had been erosion.

The evidence concerning the occurrence and amount of accretion and erosion is much less well documented than might be supposed considering the significance of these processes in several of the decisions, for example those in Sotomura.

The first legal finding that erosion had occurred on the shore of the Sotomura land at Kalapana, Hawaii was in the 1972 decision of the Third Circuit Court. This finding followed the 1971 field inspection by the court of the limu line and the debris line. Quite expectably, there were significant horizontal separations between these lines, but such separations between different lines at a single point in time cannot indicate erosion. Erosion could have been proved only by comparing the position of the limu line in 1969 or 1971 with the position of the same line in 1959 or 1960, because the earlier survey had related to the limu line alone. If the comparison had been made, it would have been possible not only to prove that there had been erosion of the shorefront at the level of the limu line but to establish how much the shorefront had retreated from point to point along the shoreline and also in the average along the shoreline of the property. However, "at trial, only passing mention of erosion was made in the testimony and no evidence as to any measurement of it was introduced" (Sotomura, 1978). The only testimony introduced in the Federal Court case "proved that this shoreline could not have been eroded by natural forces to more than three feet inland."

In spite of the grave deficiencies in the consideration by the trial court, the State Supreme Court (Sotomura, 1973) not only held that "the finding that erosion had occurred is a finding of fact that should not be set aside 'unless clearly erroneous' ", but used the finding as grounds for changing the makai boundary from the limu line of 1959 or 1960 to the vegetation line of 1969.

Lot 3 is on a rocky point between Kaimu Beach and a beach at Kalapana. Although extensive erosion of Kaimu beach had been in progress for many decades (e.g. Cox, 1974), it is undoubtedly true that no more than 3 feet of erosion could have occurred on the rocky coast of Lot 3 in the decade from 1959 to 1969. Although there might have been erosion in sand pockets along the shorefront of the lot, it is extremely doubtful that the limu line had retreated more than a very small fraction of a foot on the average.

However, at least in their appeal to the Federal District Court, the owners did not dispute the fact that erosion had occurred.

Other natural processes

Other geophysical processes, in addition to the sedimentary processes of erosion and accretion, have resulted or may result in seaward or landward shifts of seashores of Hawaii.

The Hawaiian Islands were created, for the most part, by volcanic processes. In historic times, various parts of the shore of Hawaii have been extended by lava flows from Kilauea, Mauna Loa, and Hualalai. According to Zimring there have been 13 lava flow extensions of the shore of the island of Hawaii since 1800. In the vicinity of La Perouse Bay the shoreline of Maui has been extended by a lava flow from Haleakala. Although there have been no eruptions of other Hawaiian volcanoes in historic times, the continued dormancy of these other volcanoes cannot safely be assumed. It was thus inevitable that a boundary issue involving land whose shore was shifted seaward by lava flow emplacement would arise, as in the case of Zimring (1971, 1977).

Lava flows are not the only non-sedimentation means by which the shores may be shifted. Where lava flows enter the sea, explosions may result in the construction of littoral cones which, more or less independent of the flows, may result in seaward shifts of the shore. In addition, pyroclastic vent cones on the volcanic rifts seaward may result in shore shifts.

Volcanic explosions or pit-crater subsidences may result locally in landward retreats of the shore. Such explosions or subsidences are most likely on coasts crossed by active rift zones such as the east rift of Kilauea and the southwest rift of Haleakala; less likely on coasts crossed by the southwest rift of Kilauea, the south rift of Mauna Loa, and the east rift of Haleakala; and in theory possible on any Hawaiian coast. However, no historic local retreats of the shore are known to have resulted from these processes.

Shifts in the shore at a rift zone may also result from uplift or subsidence directly associated with volcanism. Subsidence of this sort resulted in a landward shift of the part of the eastern shore on the Puna coast of Hawaii in 1924.

Tectonic uplift of a coast might result in a considerable seaward shift of the shorefront, although no historic shifts have resulted from such uplifts. Tectonic subsidences or pseudo-tectonic subsidences have, however, caused considerable landward shifts of the shorefront on the Kau and South Puna coast in 1868 and again in 1975. The latter subsidence involved the shorefront of the Sotomura land as was noted by the Federal Court (Sotomura, 1978). A tectonic process is one that involves the entire thickness of the earth's crust, or at least a major part of it. The term pseudo-tectonic has been introduced above because the subsidences of 1896 and 1975 may have resulted from the seaward sliding of gigantic blocks of the southeast flank of Kilauea volcano along slip surfaces that did not extend below the level of the floor of the ocean.

Artificial processes

Shifts in the position of the shore may result directly or indirectly from human activities as well as from natural processes. A seaward shift may result directly from the emplacement of fill or the construction of a seawall or revetment. A landward shift may result directly from excavation. Indirectly a shift may result from any artificial activity or structure that alters the rate of transport of sediments along the shore or the wave energy impinging on the shore, or otherwise alters the balance of forces tending to move materials to and away from the shore. These include on-shore and off-shore sand mining, channel and harbor dredging, and the construction of groins, sand traps, and breakwaters.

The construction of a shoreline fishpond would not result in a shift in the shore although it might be thought of as creating two additional shorelines, one facing landward the other seaward on the fish pond wall.

Summary

In summary, sea shores may be shifted either naturally or artificially. Whether a particular shore has shifted, and if so the cause of the shift, are matters of fact to be determined on the basis of geologic and historic evidence.

5. Boundary consequences of natural shore shifts

Whether or not the makai boundary along a shore that has shifted should be considered to have shifted with the shore is a matter of law. There are no statutes that are determining in this matter. In considering the consequences of shore shifts elsewhere the courts have made decisions on the basis of such desiderata as land-management conformity and just equity that, through repetition in accordance with precedence conformity, have formed the common law doctrines that I have discussed in the chapter on desiderata. Most boundary issues arising through shore shifts in Hawaii could be settled on the basis of the desideratum of commmon legality. The issue in the Zimring case, however, arose through a shore shift of a sort not covered earlier by the common law.

Erosion and accretion resulting from sedimentation processes

Gradual shifts of seashores landward and seaward resulting from sedimentation processes are close but not exact counterparts to the shifts in riverbanks to which the mutually symmetrical doctrines of erosion and accretion apply respectively. In a particular reach of a river, while there is progressive erosion of one bank there is generally progressive accretion on the opposite back, whereas there is no seashore opposite to one that is progressively shifting landward or seaward. However, while there are progressive landward shifts of some beaches there are very likely to be progressive seaward shifts of other beaches.

In any case the common-law doctrine of accretion was adopted for Hawaii by the Hawaii Supreme Court in 1889 in its decision in Halstead v. Gay. The Court held in that case that:

> ...land now above high-water mark, which has been formed by imperceptible accretion against the shoreline existing at the date of the survey and grant, has become attached by the law of accretion to the land described in the grant.

Although evidences of erosion had been presented in several Hawaiian cases prior to Sotomura, the consequences of erosion had not earlier been at issue. The trial court in Sotomura found as fact in 1972 that erosion of Lot 3 had occurred, but used the finding only to depreciate greatly the value of the land on which the erosion had occurred and did not rule that the private owners had lost title for the land lost by erosion. As the Supreme Court commented when the trial court's decision was appealed (Sotomura, 1973), the Court had earlier in the same year, in Castle (1973):

> permitted the state to dispute the location of a boundary similarly described as "at high water mark" on the map accompanying a certificate of title, because a recent survey prepared by the state showed that the present seashore boundary of these lots are further mauka (inland) than the high water mark shown on this map.

It recognized, however, that:

> We have never ruled on the question whether title to land lost be erosion passes to the State.

The Supreme Court reversed the trial court's decision in Sotomura and ruled that the private owners did not retain title to the eroded land but lost it with the erosion. It noted "...the absence of kamaaina testimony or other evidence of Hawaiian custom relevant to the question," but adopted the legal doctrine of erosion on the basis of the common law, concerning which the court cited a 1912 New York case.

The Court also found "another line of cases persuasive to determine the question." These were cases expressing what has come to be known as the public trust doctrine. The earliest Hawaiian case that the Court cited was King v. OR&L (1899). In that case, it was held that title to land below high water mark was "different in character from that held by the State in lands intended for sale" being a "title held in trust for the people of the state" with respect to navigation and fishing. "The control often stated for the purposes of the trust can never be lost," the 1899 Court held, except by such disposals as will not impair the public interests in the lands and waters."

The discussions of the common law doctrine on erosion and the public trust doctrine referred to above appear in the fourth part of the opinion of the majority of the Court in Sotomura (1973). The conclusion reached in this part was that:

> We hold that the land below the Ashford seaward boundary line as to be redetermined belongs to the State of Hawaii and the defendants should not be compensated therefore.

The Federal Court (Sotomura, 1978) reversed the State Supreme Court's decision that the post-erosional makai boundary of Lot 3 should be the vegetation line. The latter court also commented that, by the Supreme Court's ruling, "it was decided for the first time in Hawaii that title to registered land could be lost by erosion." However, the owners of Lot 3 did not dispute in the Federal Court "that aspect of the ruling as they concede that loss of title through erosion by natural losses is to be expected." Thus the Federal Court neither confirmed nor reversed the application of the common-law doctrine of erosion.

There are three reasons for questioning that the Supreme Court actually ruled in favor of the application of the doctrine of erosion although it appears that they intended to:

i) The ruling was based on the assumption that the shorefront had in fact retreated. As indicated above, that fact had not really been proved, and there is doubt that significant erosion had actually occurred.

ii) The "public-trust" cases that the Court considered to support the application of the common-law doctrine dealt with the retention of control by the government over lands originally held by the government, not with loss of title to the government by the private owners of land.

iii) Although the Supreme Court said it was resorting to common law principles, and quoted a case which the principles were enunciated, it did not actually rule that the principles apply in Hawaii independently from its statement that the defendants in Sotomura should not be compensated for land seaward from the Ashford (vegetation) line. The vegetation line had not been regarded as the pre-erosion makai boundary. Hence, even if the defendants lost title to the land between the line originally used and the vegetation line, the loss might be attributed to the error considered by the Court to apply to the original boundary rather than to erosion.

I cannot predict what the courts will make in the future of the issue of the legal consequences of erosion in the light of the quite illogical and inconclusive demonstration of the fact of erosion in Sotomura, the probability that there was no significant erosion, and the lack of a clear enunciation by the Supreme Court of the application of the common-law doctrine of erosion. However, from a non-attorney's perspective, it would seem that one of the most powerful arguments for the applicability of the doctrine of erosion in Hawaii is the recognition since 1889 that the doctrine of accretion is applicable. The natural processes of sedimentation on an unstable coastline may result in either a seaward advance or a landward retreat of the shore. Symmetry requires that, if a landowner stands to gain by the effects in one direction, he should risk loss by the effects in the opposite direction.

I consider, as the owners of Lot 3 did at least eventually, that "loss of title to erosion by natural forces is to be expected," and further, for symmetry, that gain of title through accretion by natural forces is equally to be expected.

Rapid shoreline shifts due to natural sedimentation processes

It will be recalled that a distinction is made in the common law applying to riparian boundaries between the gradual shifts in riverbanks, to which the doctrines of erosion and accretion apply, and the sudden shifts in the banks to which the doctrine of avulsion applies.

Although sedimentary processes rarely result in significant rapid shorefront shifts in the seaward direction, such shifts in the landward direction are common. Rocky coasts are not liable to rapid retreat, but beaches frequently retreat rapidly and significantly as the result of storm waves and tsunamis. Between the rapid retreat of a beach and the sudden riverbank changes to which the doctrine of avulsion applies there is the same

difference as that between the gradual changes of beaches and the gradual riverbank changes to which the doctrines of erosion and accretion apply as there is no shore opposite to an ocean beach that retreats. However, there are also more substantial differences.

Reversing shifts of beach fronts should be of no significance in determining makai boundary positions, and in general the "sudden" retreats that occur during periods of abnormally high storm waves or result from tsunamis are offset by subsequent returns of the beach front to normal positions. Abnormally high storm waves or a tsunami may, however, greatly accelerate the progressive retreat of a beach that would normally be gradual. Because the landward shift of the shore would occur even in the absence of the abnormal waves, it seems illogical that the makai boundary in the case of a shorefront shift resulting from abnormal waves should be treated in a way different from its treatment under normal conditions.

"Gradual" and "sudden" are, of course, relative terms as they apply to rates of shore shifts. In my earlier discussion of the distinctions among erosion, accretion, and avulsion, I cited works indicating that in case of a question as to the whether the rate is gradual or abrupt it is the doctrine applying to the gradual change that is applied, and even that the rate criterion may be considered inapplicable.

I conclude that the doctrine of erosion should apply to makai boundaries on shores that have shifted semi-permanently landward due to sedimentation processes, and that the doctrine of accretion should apply to those on shores that have shifted seaward similarly, regardless of the rates of the shifts.

Other natural shorefront shifts

The appropriate treatment of makai boundaries on shores that have shifted as the result of volcanic, tectonic, or pseudo-tectonic processes presents complex issues.

The only makai boundary question associated with a seaward shore shift not resulting from sediment deposition that has been addressed by the courts in Hawaii is that in the Zimring (1970, 1977) case in which the shift resulted from a lava flow. As indicated in the discussion of that case, the State for several years referred to the shift as a lava flow accretion, and the trial court decided it as if the doctrine of accretion applied, in other words decided that the makai boundary of the Zimring land shifted with the shoreline. The Hawaii Supreme Court reversed the decision, concluding that the doctrine of accretion did not apply.

The shift clearly did not fit the legal definition of accretion, because it did not result from sediment deposition. It did not fit the legal definition of avulsion because it did not result from a change in the course of a stream or in the loss of land anywhere. Consideration of "the logic of cases based on these concepts," as urged by the Zimrings, was clearly worth examining. Curiously, the Supreme Court's report on the case indicates no consideration of the concept of reliction. The logic of cases based on this concept seems pertinent also, although the shoreline shift did not precisely fit the definition of reliction either, because land was not uncovered by a recession of the water, although in a sense the water certainly receded as the lava flow advanced.

As indicated earlier, an important but not conclusive distinction between accretion and avulsion appears to relate to the rapidity of the processes. Even Judge Vitousek, in dissenting from the majority opinion of the Supreme Court characterized the shoreline

shift as "formed by one of the most violent and spectacular geophysical processes known." A volcanic eruption may certainly be violent and is generally spectacular, but even at the vent lava may at some times emerge quietly. What is pertinent here, however, is not the behavior at the vent but the behavior of a lava flow as it flows into the sea and extends the shoreline. Lava, particularly pahoehoe, may flow very quietly into the sea, although there is usually some explosive activity where aa enters the sea, and sometimes this activity is sufficient to result in the formation of a littoral cone. Lava may, however, continue to flow into the sea for many days or even weeks, the advance of the shore may continue almost as long, and only a small part of the extension may be accomplished when the flow first reaches the sea. Most of the actual shift in shore position would be no more "perceptible while the change is in process" than the shift in the bank of a river eroding it during a flood.

In the Supreme Court reports on the Zimring (1970, 1977) case, there is no characterization of the lava flow entering the sea at the Zimring land as pahoehoe or aa, and no mention of the duration of the flow into the sea or the rate of seaward shift of the shore. However, because future cases of the same sort are sure to arise, Zimring should have set a precedent applicable to shore shifts resulting from the entry of both pahoehoe and aa flows into the sea over the characteristic range of periods and occurring over the characteristic range of rates. Considering that "When the facts present a close question, it is held that the change should be presumed to be due to accretion rather than avulsion" (Patton, 1952), and that the doctrine applied to reliction is the same as that of accretion, "the logic of cases based on these concepts" suggests to me that the boundary question might readily have been decided in parallel with the doctrine of accretion rather than the doctrine of avulsion, in other words that the boundary should have shifted with the shore.

The "logic of cases based on these [common law] concepts" was, however, not the only matter considered in Zimring. The courts considered also what I have termed the desiderata of practice conformity and land-usage conformity. As indicated in the earlier discussion of these desiderata, the Supreme Court considered only the second of these pertinent, indicating that it would not have taken into account evidence of pre-1846 practices in the case of lava-flow extensions even if such evidence had been presented. Furthermore, the Court considered that the number and nature of the State's previous boundary treatments in the case of post-1846 lava flow extensions insufficient to establish a usage, even though the treatments had in each case resulted at least in the effect of a shift of the makai boundary with the shift in the shoreline. On this point the Federal District Court (Zimring, 1979) held that "neither 'all judicial precedent' nor 'decision after decision' established that the lava extension belonged to the abutting landowner."

The critical issues in this point seem to be whether usage is established by Supreme Court determination alone or by governmental actions the more generally, and whether it is mere numbers of determinations or their consistency that is the more important in the establishment.

It is unquestionable that private title was granted to lava extensions occurring prior to the Mahele; and the evidence in Zimring indicates that in every case of a post-Mahele extension adjacent to private land other than the Zimring case, and in the Zimring case also until the mid-1960's, the government acted consistently as if the extensions belonged to the owners of the adjacent lands. The actions in one of these cases included the decision of the Boundary Commission, which had judicial powers.

In contrast to the majority of the Supreme Court (in Zimring, 1977) and the Federal judge (in Zimring, 1979), I would consider, as did the judge of the trial court and Judge Vitousek who sat with the Supreme Court, that this record established a usage.

In considerable part, the Supreme Court's decision was based on the desideratum I have termed policy conformity. However, as pointed out by Judge Vitousek the public policy involved was to maintain public access to and along the shoreline, not a considerable area back of the shoreline, and to retain State ownership of the shorefront which would have been retained even if the makai boundary of the Zimring land were shifted to the same extent as the shoreline.

It is interesting to note that, in relation to public policy and equity, the Hawaii Supreme Court considered that the lava extension should not be owned by the Zimrings because otherwise they would have a "windfall" benefit. An important concern perhaps felt but not expressed by the Hawaii Supreme Court may have been the fact that, if Zimring were decided in parallel to accretion, it would establish a precedent under which, in the case of a lava flow extension much larger than that at the Zimring land, there might be an enormous windfall to the owner of the littoral land. It is notable, however, that in a 1973 Arizona case involving a choice between the application of the doctrines of accretion and avulsion, the U.S. Supreme Court was swayed by the windfall consideration but in the direction opposite to that of the Hawaii Supreme Court, ruling in the Arizona case that the doctrine of accretion applied because otherwise the windfall would have been to the State. (Bonelli Cattle Co. v. Arizona, 414 VS 313 (1973) as reported in the 1952-1976 supplement to Patton, 1952.)

The Supreme Court seems to have overlooked completely the aspect of equity that I have termed symmetry. There is no exact opposite counterpart to a lava flow extension. However, among volcanic, tectonic, and pseudo-tectonic processes that may affect shore positions there is one, coastal subsidence, that has historically resulted in retreats of the shore and others such as volcanic explosions that might cause retreats, as well as others such as coastal uplift and pyroclastic-cone construction that might cause advances.

As indicated earlier, there have been three significant occurrences of coastal subsidence in Hawaii in historic times. The subsidence of 1975 resulted in a landward shift in the shoreline of the Sotomura land, but effects of this subsidence were not an issue in the Sotomura case. The effects were described in the Federal District Court decision in the case (Sotomura, 1978) as avulsion, but they appear to fit the definition of submergence at least as well as the definition of avulsion. The subsidence processes then and in 1868 and 1924 were sudden, or relatively sudden. In each case the subsidence accompanied an earthquake, and it was probably essentially complete within a few minutes after the earthquake (Cox, in press). But imperceptibility of movement seems not to be a criterion in the definition of submergence. Certainly land disappeared beneath the water in each case. It would appear to make little difference whether the disappearance resulted from the sinking of the land rather than the rise of the water level.

The boundary problems associated with the seaward shoreline shifts that might result from processes other than sedimentary accumulations and lava flows seem of small importance. It is true that a tuff cone like Diamond Head might at some future time be formed so as to extend the shoreline at private property. However, the formation of such a cone is a rare occurrence. None have been formed on a Hawaiian coast in historic times. Vent cones and littoral cones associated with lava flows are usually much smaller. There is no evidence of significant Hawaiian coastal uplifts in historic times.

I conclude that the Hawaii Supreme Court used poor judgment in its decision in Zimring (1979), and that the Zimring boundary should have been considered to have shifted seaward with the lava flow extension. However, the Court's decision has not been reversed and must be considered a precedent in the case of any other makai boundary at a shore that is extended by a lava flow.

The effect of this precedent could be nullified by statute. Although statutory nullification would now be discordant with the desideratum of legal stability, I suggest that, in the light of the "logic of cases" in common law and the common practice in Hawaii prior to Zimring, and considering the desideratum of equity, including symmetry, the legislature might well enact a statute establishing that makai boundaries should shift with lava flow extensions or any other processes resulting in semi-permanent shifts of the shore, either seaward or landward, although perhaps with some limit to the extent of seaward boundary shifts.

Artificially induced shore shifts

None of the court cases reviewed in this report dealt directly with the boundary consequences of artificially induced shore shifts. However, Klausmeyer v. Makaha (1956) dealt with the right to mine sand on one part of the shore where the mining might result in a landward shift of another part of the shore. In that case the State Supreme Court instructed the lower court with original jurisdiction to restrain the sand mining wherever it might have this effect. Prohibitions against mining of sand on and offshore in the Shoreline Setback Law passed in 1970 (HRS 205) are intended also to prevent artificially induced beach retreat. If a landward shift in a shore does occur by erosion to which human activities may have contributed significantly, I would suppose that, unless a reversal can be expected through the cessation of the contributing human activities, the doctrine of erosion would apply.

I understand that it is a well established principle that the owner of a shorefront property does not gain title to a "man-made accretion". The Waikiki Beach reclamation agreements of 1928-1929 were consistent with this principle. It applies, I assume, to such seaward shore shifts as might result from the placements of fill or the construction of a seawall, revetment, or a sand-trapping structure on the shore or the construction of a sand trap or breakwater off-shore. Where, however, a seaward shift in the shore may have resulted from a combination of natural and artificially induced accretion, it might well be argued that the makai boundary should shift as far as the shore would be estimated to have shifted with the natural accretion alone.

The symmetry aspect of equity can be satisfied, in the case of artificially induced shore shifts, only to the extent that the owner of land lost by artificially induced erosion may gain relief from those responsible for the inducing activities.

Summary

To summarize the treatment of makai boundaries in the cases of shore shifts in terms of the desiderata I have recognized:

a) In the case of natural alternating seaward and landward shifts, the desideratum of legal stability might suggest that the makai boundary should shift with the shoreline. However, the desideratum of physical stability suggests that the boundary not change in absolute position. If the opposing shifts are balanced, both desiderata are satisfied by a boundary that does not change in position.

b) In the case of a gradual and imperceptible semi-permanent shift due to natural sedimentation processes, the courts have decided that the makai boundary should shift with the shoreline, in accordance with the desideratum of common legality. The first decision in the case of a seaward shift was made nearly a century ago, and in accordance with the desideratum of precedence conformity, the doctrine of accretion has been applied many times subsequently. Not until 1973 was the equivalent doctrine of erosion applied to a landward shift, and the demonstration of actual shoreline shift was faulty in that case. However, the shift in the makai boundary in such a case properly represents a precedent that can be reestablished if not followed.

c) In the case of a seaward shift due to lava-flow extension, the State Supreme Court ruled in 1978 on the basis of the desideratum of policy conformity that the makai boundary should not shift, and for legal stability this precedent must be followed for the present. However, the combined desiderata of practice conformity, land-usage conformity, common legality, equity (including its symmetry aspect), and policy conformity would be better satisfied, in my opinion, if makai boundaries should be considered to shift with lava-flow extensions.

d) There have been no decisions in the case of natural shifts other than those due to erosion, accretion, or lava-flow extension, although such shifts have occurred. I consider that the same combination of desiderata that are applicable to shifts due to the latter processes suggests that the makai boundary should shift with the shore in the case of other natural shifts of the shore.

e) In the case of an artificially induced shore shift, the desideratum of legal stability is satisfied if the makai boundary does not shift with the shore. The symmetry aspect of equity can be satisfied only to the extent that the owner of land lost by artificially induced erosion may gain relief from those responsible for the inducing activities.

6. Reestablishment of boundaries after permanent shore shifts

Having established that, at least under certain circumstances including natural erosion or accretion, a makai boundary does not remain fixed in absolute position, we must turn to the principles under which the boundary should be reestablished after a permanent shift.

The State Supreme Court in Sotomura (1973) clearly considered that the combination of: i) the application of the legal doctrine of erosion in Hawaii, and ii) a finding of fact that the shorefront of a particular parcel of land had shifted since its makai boundary was established, constituted grounds not only for shifting the boundary but for changing the basis for its establishment. Although the shoreline boundary of Lot 3

as registered with the Land Court was the limu line, the Supreme Court ruled that the boundary after erosion should be the vegetation line.

The Federal District Court (Sotomura, 1978) specifically reversed this ruling. The Federal Court noted that the State had not appealed the Land Court registration of Lot 3 using the limu-line boundary. Citing case law, the Federal Court decided that "the protection afforded by the doctrine of res judicata includes the land court's identification and use of the seaweed line as the monument fixing the location of high water mark for the seaward boundary of Lot 3," and that "Res judicata applies even if the court subsequently adopts a different view of the law."

It must be granted that the Federal Court's decision that the owners of Lot 3 needed to be compensated only for the loss of the land seaward to the debris line, rather than to the limu line, is inconsistent with its decision that the post-erosional makai boundary of Lot 3 was the limu line. Nevertheless, I assume that, unless the Federal Court ruling is itself reversed or modified, even if the stability of the absolute position of a makai boundary accepted by the Land Court is not assured under the doctrine of res judicata, the doctrine assures stability of the basis for establishing the position of the boundary.

By extension it would seem that the doctrine of res judicata would apply in the same way in the event of accretion, and that the doctrine would apply in the same way in the event of either erosion or accretion affecting boundaries established as res judicata of courts other than the Land Court.

To argue more generally, if any doctrine requires that a makai boundary should shift with the shore, the makai boundary should be established after the shift in the same position relative to shore features or tide lines that it had before the shift, in accordance with the desideratum of legal stability.

7. Treatment of discrepancies in makai boundary definitions

If there has been a shift in the position of the shore, a makai boundary on the shore based on a survey tied to fixed points will no longer fit. At least in the case of erosion and accretion, the makai boundary must be redetermined after the shift as indicated in the last section. However, not all discrepancies in the definitions of boundaries result from shifts in the positions of the shores. Although there had been accretion at the shore in the case of Brown v. Spreckels (1902, 1906), for example, the discrepancies between the survey, the verbal description, and the sketch by which the boundary of the Kalaeloa land in that case had been defined, would have required adjudication even if there had been no accretion. The case of Brown v. Spreckels involved some complexities dependent in part on the meaning assigned to the term "beach", and the interpretation of ambiguous terminology is a matter to which I will come later. However, discrepancies may arise even in the absence of ambiguous terminology.

In the Sotomura case, the makai boundary of Lot 3, as it had been accepted by the Land Court, had been described both verbally and by a survey. Verbally the boundary was described as "along high water mark," this was interpreted as meaning along the limu line, and the survey was run along the latter line. Disregarding the issue of the validity of interpreting the high water mark as meaning the limu line, suppose that, even the absence of erosion or accretion, discrepancies had been found between the survey line and the limu line. There would then be a question whether the boundary should be considered to be at the limu line or as surveyed.

Phrased broadly, the issue addressed here is whether a verbal description or the survey of a shorefront property boundary takes precedence if both have been used and they have equal priority in time. An issue of just this kind arose in the case of McCandless v. Du Roi (1915), and its apparently definitive treatment by the Supreme Court has led me to include that case among those discussed in Chapter III even though the boundary in the case was a ditch-bank boundary, not a shorefront one.

The judgment of the Court in that case was that a survey line intended to follow a topographic feature should be considered a "meander line", and that its courses and turning points were intended to indicate only in general the positions of the feature; that the feature itself was the boundary; and that where there was a discrepancy between the survey and the actual position of the feature, the boundary was defined by the feature, not the survey.

This decision was in accordance with the treatment of similar discrepancies in other jurisdictions which, as pointed out by Judge Vitousek in Zimring (1977), could be considered to constitute common law.

The ditch bank in McCandless v. Du Roi was, of course, an artificial feature, not a natural one. In accordance with the desideratum of common legality, it is expectable that the courts would refer to the McCandless v. Du Roi decision as a precedent for deciding that natural features or tide lines, rather than the surveys that are intended to follow them, constitute actual makai boundaries of seashore property.

The decision of the Supreme Court in Kelley (1968) is not discordant with this expectation, because in Kelley the court held that the survey line was not intended to follow the beach but instead to define the mauka boundary of property that lay between the Kelley land and the beach.

I conclude that verbal descriptions of boundaries in terms of natural features or tide lines take precedence over surveys that were intended to follow the descriptions.

8. Recognition and resolution of ambiguities

Even to the extent that the treatment of makai boundaries in the event of seashore shifts is settled, and even though the treatment of discrepancies is settled, there remains the problem of determining which terms that have been used in the description of makai boundaries are definitive and which are ambiguous, and in the case of the latter, how the ambiguities are to be resolved. A boundary descriptor that was considered by a government agency or by a court to have one meaning may be considered by a different agency or court, or even by the same agency or court at a different time, to have another meaning. In Chapter VIII, I will discuss the meanings of all of the boundary descriptors that were applied to the makai boundaries of the properties in the cases discussed in Chapters II and III and many more that may have been used to define makai boundaries. Before discussing the meanings of the individual terms, however, it seems well to recognize and comment on some of the more general arguments that have been presented for preferring some interpretations over others.

In general the arguments over the proper interpretation of ambiguous makai boundary descriptions in the cases discussed reflect differences in opinion as to the importance of the desideratum of legal stability, differences in importance between the desiderata of precision and physical stability, and differences in importance among the

desiderata of boundary-practice conformity, land-use conformity, legal stability, policy conformity, and just equity.

For reasons indicated in the chapter on desiderata, I consider that:

(i) A definitive interpretation of an originally ambiguously described boundary, once authoritatively accepted, should be legally stable.

(ii) Physical stability is of far greater importance in makai boundaries than precision.

(iii) Pre-existing distinctions as to land use as well as customary boundary-establishment practices are usages that may indicate the intentions in establishing a makai boundary.

(iv) Such usages which are recognized in HRS 1-1 and predecessor statutes, should be given greater weight than modern public policy, which is not recognized in HRS 1-1.

(v) Modern public policy and just equity must be considered together.

These considerations are reflected in my suggestions as to the interpretation of ambiguous boundary descriptions in Chapter VIII.

Summary

The conclusions I have drawn with respect to the issues discussed in this Chapter may be compiled with some abbreviation as follows:

1. The definitions of makai boundaries in the original Land Commission awards, Boundary Commission determinations, Royal Patent and Land Grants, and Kamehameha Deeds are authoritative except in the case of lands that have been registered in the Land Court. In the case of the latter lands, the definitions of the boundaries accepted by the Land Court are authoritative.

2. Among the authoritative definitions of makai boundaries there are some that are mutually inconsistent. Uniformity of makai boundaries can be achieved only to the extent that different boundary descriptions are ambiguous and thus subject to interpretation. Hence:

3. The issue of what natural feature or tide line should uniformly be followed by all makai boundaries is moot.

4. Seashores are subject to changes in position through the operation of several natural processes.

5. A makai boundary shifts with the seashore at least if the seashore shift results from gradual and natural sedimentation processes, and should probably be considered to shift thus if the seashore shift results from any other natural process other than lava-flow extension. At present it must be considered that a makai boundary does not shift with a lava-flow extension, although this seems illogical. A makai boundary does not shift seaward but may shift landward with an artificially induced shift in the shore.

6. If a makai boundary is shifted with a natural shift in the seashore, it should be redetermined in accordance with its natural feature or tide line by which it was originally determined.

7. In case there is a discrepancy between the verbal description of a boundary in relation to a natural feature or tide line and a boundary survey intended to follow the description, the boundary is defined by the verbal description.

8. In interpreting an ambiguous boundary description, the physical stability of the boundary should be given greater weight than its precision, and evidences of original intention from contemporary boundary practices and land uses should be given greater weight than just equity and modern public policy.

VIII. MEANINGS OF INDIVIDUAL BOUNDARY DESCRIPTORS

The terms that have been used to describe makai boundaries must now be examined to determine which are definitive and which are ambiguous and hence open to interpretation by the courts or the legislature (in-so-far as their interpretation has not already been determined in particular instances by the Land Court or other courts).

A search of all the documents in which makai boundaries have been authoritatively described would be quite impractical. In what follows, I have, however, considered every descriptor that I have found mentioned in the Supreme Court or the Federal Court reports on the cases summarized in Chapters II and III, or in the documents discussed in Chapter V, or in the articles by Houston (1953, 1954) referred to in Chapter VII. For the sake of clarification, I have included some additional descriptors that may not have been applied to any makai boundary in Hawaii.

As has already been recognized, at the times of the earliest grants and deeds of land in Hawaii the land was not perceived as having unit values as high as the present values. Hence, there was not originally so great a need for the use of definitive and precise terminology in boundary descriptions as at present. Examples given by Chinen (1958) indicate that some of the earliest boundary descriptions were written in English. However, some were written in Hawaiian, and exact correspondence between Hawaiian terminology and English terminology is not to be expected. Ordinary translations of Hawaiian terms do not necessarily indicate the meanings of the terms in the context of land description. Special problems may thus arise in the interpretation of Hawaiian boundary descriptors, even when there are conventional translations of these descriptors.

In discussing the meanings of terms used or possibly used in makai boundary description, I will address, first, certain English language terms that have unique meanings and refer to precise or nearly precise lines; second certain terms (mainly English-language terms) that have more or less definite meanings but cannot be applied with precision; third, Hawaiian language terms; and finally, the English-language terms that are most ambiguous or that refer to features that do not define boundaries with precision.

Terms with unique and precise meanings

The only makai boundary descriptors that, without ambiguity, refer to lines that may be precisely located are certain English-language terms referring to tide lines. In relation to tide surfaces and tide lines, the word "water" may substitute for the word "tide". For example, the terms "line of mean low tide," the "line of mean low water," the "mean-low-tide line," and the "mean-low-water line" refer to the same line.

Line of mean sea level

"Mean sea level" is the mean level of the sea surface, averaging out over a long term the effects of both waves and tides. It is often referred to as a plane, but it is actually a somewhat irregular surface approximating a sphere and extending around the earth. The "line of mean sea level" is the line of intersection of this surface with the ground surface at the seashore, in other words the mean-sea-level shoreline.

"Mean sea level" is the most generally significant of all tide levels and is the datum plane used in practically all subaerial topographic surveys. So far as I am aware, however,

neither "line of mean sea level" nor "mean-sea-level shoreline" have been used as makai boundary descriptors in Hawaii. (See also line of half tide below.)

Line of mean low tide

"Mean low tide" is the mean level of the sea surface at all low tides, averaging out the effects of waves. The line of mean low tide has the same relationship to the mean-low-tide surface as the line of mean sea level to the mean sea level surface. I know of no Hawaiian use of the "line of mean low water" as a makai boundary descriptor in Hawaii. (However see "neap and spring tide lines" under semi-definitive terms, "low water mark" and "sea at low tide" under ambiguous English terms, and "kai make" etc., under Hawaiian terms.)

Line of mean lower low tide

On some coasts the tide is diurnal, that is there is but one high tide and one low tide a day. On other coasts the tide is semidiurnal, that is there are two high tides and two low tides a day, the height of the high tides above mean sea level and the depth of the low tides below mean sea level in any day being nearly equal. On Hawaiian coasts, there is a mixed tide, that is there are two high tides of unequal height and two low tides of unequal depth on most days. On such coasts the "mean lower low tide" is the long-term average taking into account only the lower of the two low tides, if there are two, in any day. The determination of the "line of mean lower low water" parallels the determinations of the mean sea level line and the mean low water line. I know of no Hawaiian use of the "line of mean lower low water" as a makai boundary descriptor in Hawaii. (However see "neap and spring tide lines" under semi-definitive terms, and "sea at very low tide" under ambiguous English terms.)

Line of mean high tide

The "line of mean high tide" is a line that relates to high tides in the same way that the line of mean low water relates to low tides.

So far as I know, the "line of mean high tide" has not been used as a makai boundary descriptor in any Hawaiian award, grant, or deed. However, other boundary descriptors have been interpreted as equivalent to this line. The Land Court accepted surveys following this line as the equivalent of "ma ke kai" (see under Hawaiian terms) in the case of Ashford and in two other cases referred to by Justice Marumoto in his dissent in Ashford. The language of opinion 1589 indicates that the Attorney General in 1932 considered that "high water mark" (see under ambiguous English terms) was at least approximately equivalent to the "line of mean high water." (See also "ordinary high water mark" under ambiguous English terms, "neap and spring tide lines" under semi-definitive terms, and "kaihohonu" etc., under Hawaiian terms.)

Line of mean higher high tide

The "line of mean higher high tide" has the same relationship to high tides that the "line of lower low tide" has to low tides. I know of no Hawaiian use of this line as a makai boundary descriptor. (However, see "neap and spring tide lines" under semi-definitive terms.)

Line of half tide or mean tide

The "half tide or mean tide level" is halfway between mean high tide and mean low tide. This level is not identical to mean sea level, but the difference is very slight in Hawaii where the tide range is small, and in the context of makai boundary description, the line of half tide or mean tide may be considered essentially the same as the line of mean sea level. I know of no Hawaiian use of this line as a makai boundary descriptor.

Semi-definitive terms

Before addressing the more ambiguous terms that have actually been employed as makai boundary descriptors, it will be helpful to discuss the meanings of certain tide lines and other lines that are somewhat less definitive than the tide lines discussed above but have been used in the interpretation or definition of those descriptors.

Neap and spring tide lines

Where the tides are semi-diurnal or, as in Hawaii, mixed, there is a semi-monthly variation in tide range associated with the phases of the moon. The neap tides, which have the smaller ranges, occur near the times of the first and last quarter of the moon. The spring tides, which have the larger ranges, occur near the times of full and new moon. High and low neap tide lines and spring tide lines are associated respectively with the high and low neap and spring tide levels in the same way that the precise tide lines are associated with precise tide levels.

In Opinion 1589 (1932), the Attorney General suggested that "high water mark" and other makai boundary descriptors should be defined as the limit reached by the neap tides disregarding wave effects. Such a limit is, however, not statistically definable. The line of the mean high neap tide could be defined as the intersection with the shore of the long-term mean level of the neap high tides, but this mean level is rarely computed. In the same opinion the Attorney General ruled out the line of the mean high spring tide as the equivalent of "high water mark". I am not aware of any other reference to neap or spring tide lines in connection with makai boundary descriptions.

Vegetation line

The term "vegetation line" has been used simply as a brief synonym for the less ambiguous term "edge of vegetation".

"A title abstractor with 50 years experience" testified in Sotomura (1978) that the "edge of vegetation" was not used in original grants of title by the government. According to C.R. Ashford (personal communication) this abstractor was Z.D. Sherwood, an expert in the Hawaiian language. However, the terms "vegetation line" or "edge of vegetation" have been used or proposed for use in the interpretation of other makai boundary descriptors by Houston (1953, 1954), by the Hawaii Supreme Court in Ashford (1968), Sotomura (1973), and Sanborn (1977), and by the authors of SB 1947 (1976). It was used by the Legislature in defining the "shoreline" as a reference line for land-use regulation in the coastal zone in Act 136 (1970), now HRS 205-31, and by the Land Use Commission in defining the inland boundary of the Conservation District along the shore. In most of these uses, the "vegetation line" was referred to as evidencing a "wave wash line" (a term whose meaning is discussed below).

In the context of makai boundary description, these terms refer to the seaward edge of land vegetation whose further growth seaward is limited by salt-water inundation or other wave effects. The "vegetation line" on many coasts is easily recognizable, but it is not completely unambiguous, precise, or stable, and it is not continuous. These deficiencies were brought out in Sotomura (1978) by the botanist, Harold St. John.

On a beach that has been subject to long-term retreat, such trees as coconuts, ironwoods, and false kamanis, whose roots extend a considerable distance landward, may continue to grow even after the sand around them has been stripped away so that the waves wash farther inland. The canopies of such shrubs as naupaka may extend several feet seaward of the inland limit of wave wash. During seasons of maximum beach extension, vines such as the beach morning glory may send streamers down the beach far seaward of the inland limit of annual wave wash, and even past the position of the low-tide line during seasons of maximum beach retreat.

Where there is a continuous and recognizable shoreline vegetation line, it is defined by the seaward limit of perennial growth of the grasses and small shrubs and of the main stems of the higher shrubs. The uppermost debris left by the waves is often caught in and overgrown by the plants along this line, and on a beach the line follows closely the top of the beach slope.

In high-rainfall areas, where the salinity of the soil water is low and the salt drifting inland is frequently washed from the leaves by showers, even non-salt tolerant plants may spread to the inland limit of wave inundation. On dry coasts, however, the shore vegetation consists primarily of salt-tolerant or halophytic species. Most of the halophytes will tolerate occasional inundation by salt water, and a few species (notably the mangrove) will grow continuously in salt water. The shoreline edge of vegetation, along the shore of a dry coast, if such an edge can be recognized, probably marks the seaward limit of a presistent substrate in which the plants can become established. On a beach coast, sand is likely to be removed and replaced annually nearly to the limit of wave wash; and on a non-beach coast, soil accumulation is prevented to the same limit.

In Sotomura (1978) the Federal District Court claimed that:

> The Hawaii Supreme Court's opinion in Sotomura does not indicate any legal basis for the presumption that the upper reaches of the wash of the waves over the course of a year lies along the line marking the edge of vegetation growth...

However, where the "vegetation line," defined as above, can be recognized, it is essentially coincident with the "wave wash line" as I will define that term.

It must be noted that the vegetation line, defined as above, is not everywhere recognizable. The combination of climatic and substrate controls of vegetation is not related solely to proximity to the sea. There may, for example, be no vegetation or only very sparce vegetation on fresh lava flows, particularly in dry areas. On dry coasts where there are unweathered lavas, cinders, tuff, or bare reef limestone or beachrock at the surface, there may be no recognizable shoreline vegetation line.

It must be noted also that the "vegetation line" is not completely stable. Dennis Hwang has found changes in nearly 150 feet in the position of the vegetation line showing on aerial photographs of Kailua Beach, Oahu, over a 19-year period (J.F. Campbell, personal communication). (The vegetation line showing on aerial photographs may not be

precisely the "vegetation line" as I have defined it.) However, the position of any tide line on this beach would have changed even more than the vegetation line during the same period.

Limu line or seaweed line

In Sotomura the "limu line" or "seaweed line" was used in the survey that had been accepted as the equivalent of the "high water mark" by the Land Court (see Sotomura, 1973) and was one of the alternative, inconsistent equivalents accepted by the Federal District Court (Sotomura, 1978). This line has probably been used as the makai boundary of other lands.

As used as makai boundary descriptors, the "limu line" and "seaweed line" are synonymous. "Limu" and "seaweed" are forms of vegetation. However, the "vegetation line" is the seaward limit of land vegetation whereas the "limu line" is the landward limit of marine vegetation. These limits are not even close to each other except on shores not washed by waves.

The Hawaiian word "limu" refers to any type of plant living under water, and to algae growing in damp places, some mosses, liverworts, and lichens (Pukui and Elbert, 1971). In the context of seashore boundary description it is synonymous with seaweed, primarily applying to sessile marine algae. Such algae may be torn from their original substrate by the waves and accumulate as debris on the shore (see "debris line"), but in all of the cases in which a makai boundary is defined by reference to a limu or seaweed line, the term seems to have referred to algae still attached to the substrate.

Like the "vegetation line," the "limu line" is discontinuous. Limu grows on rocky shores and on boulders that are relatively stable, but not on sand.

The limu line is generally less ambiguous and more precise than the vegetation line, but there is a zonation of limu, some species requiring essentially continuous inundation and others growing where there is only occasional inundation by waves. There is also zonation related to the salinity of the water.

Debris line

A "debris line" is a windrow of debris left on the shore by waves. Although many court decisions seem to consider that there is only one debris line, several debris lines may generally be found at most times on most shores. The debris windrows lower on the beach, being left generally by waves of smaller size, are generally smaller than those higher on the beach that are left by the combination of larger waves and higher tides. Their centers may thus be located more precisely. The lower debris lines are, however, less permanent than the upper debris lines. The position of the uppermost debris line is usually essentially coincident with that of the vegetation line, on the crest of the beach berm, the debris being caught in and overgrown by the vegetation. Among debris lines, therefore, the uppermost satisfies best the desideratum of physical stability.

The title abstractor who testified in Sotomura (1978) with respect to the use of "vegetation line" stated that the term "debris line" was not used in any original grants of title by the government. However, the term has been used or proposed for use in the interpretation of other makai boundary descriptors by the Government Survey Office and

by the Hawaii County Surveyor of the Sotomura land; and it was among the inconsistent terms used by the Federal District Court in Sotomura (1978). The "debris line" was used by the Legislature as a mark of the "shoreline" to be used as a reference line for land-use regulation in the coastal zone in Act 136 (1970), now HRS 265-31.

In the post-1953 practice of the Government Survey Office, according to Dunn, the high water mark was considered represented by a lower debris line. In Ashford (1968) the Supreme Court considered the "upper reaches of the wash of the waves" to be indicated by either "the line of debris left by the waves" or the "edge of vegetation." In Sotomura (1973) the Court considered the "edge of vegetation" to control if its position differed from that of "a debris line." In Sanborn (1977) the Court referred to the combination of "the vegetation and debris line." In SB 1947 (1976) both the "vegetation line" and the "normal line marking wave debris" were considered markers of the "normal upper reach of waves" which was proposed as a boundary descriptor.

Because all of the debris lines on seashores result from wave action, none mark a mean high tide line or any other tide line. The highest debris line, however, does ordinarily mark an "uppermost reach of wave wash."

Because the windrows of debris have finite widths, they are not actually lines. However, for precision consistent with the "wave wash line" as I will define that term, the term "uppermost debris line" can be defined as the highest part of the windrow of debris left farthest inland by ordinary storm waves. In this definition, I intend the "highest part" to mean that part whose elevation above the ground is greatest; and "ordinary storm waves" to exclude extreme storm waves and tsunamis. The "debris lines" thus defined are visible marks that are not difficult to identify. Their positions are usually nearly identical to those of "vegetation lines" as I have defined those. They may be found and provide continuity in makai boundary identification where vegetation lines are absent.

Hawaiian terms

Most Hawaiian terms used in makai boundary description are ambiguous, quite imprecise, or both. Hence it is necessary to interpret most of them or to make choices among possible reasonably precise meanings. In this section, I will refer to Pukui and Elbert (1971) as the authority for the meanings of most Hawaiian terms because their work constituted a revision and extension of the Andrews (1865) dictionary that was earlier considered authoritative. In some cases, however, I will refer also to the meanings given by Andrews.

Kahakai

"Ma kahakai" was among the makai boundary descriptors listed by Houston (1953, 1954) and was the term used in the original grants to describe the boundary at issue in Halstead v. Gay (1889), in the original award to describe the boundary at issue in Territory v. Kerr (1905), and in a grant of a parcel at Hana, Maui whose makai boundary was a subject of Opinion 1117 (1924) of the Attorney General. The term "kahakai" was also used to define the landward boundary of fishing grounds in statutes of 1839 and 1846.

For the place meanings of "ma", Pukui and Elbert give: "at", "in", "beside", and "through". Among these, "at" and "beside" would fit a boundary description best, but "along" would be better still, and "ma" was translated "along" in both of the cases mentioned above. "Kahakai" was interpreted in both of these cases to mean "high water mark".

Another term listed by Houston is "A hiki i kahakai." Houston considered the term to mean "reaching to the top of the beach."

"Kahakai" was taken to mean simply "beach" in the English translation of the 1839 fishing rights statute, but to mean "low water mark" in the translation of the 1846 statute. In Halstead v. Gay (1899) "ma kahakai" was held by the Hawaii Supreme Court to mean "along high water mark". In Territory v. Kerr (1905), this phrase was translated simply as "along the sea" but was interpreted to mean "along high water line". Some of the meanings attributed to "kahakai" are clearly inconsistent with others.

Dictionary meanings given for "kahakai" are:

1. The sea shore (Andrews), seashore (Pukui and Elbert)

2. Beach (Pukui and Elbert)

3. The sand of the sea beach (Andrews)

4. The name of the region or country bordering on the sea (Andrews)

However, the State Supreme Court in Halstead v. Gay called attention to the etymological meaning as follows:

> "Kahakai" is compounded of the kaha and kai. Kaha means primarily scratch or a mark. Kai means the sea or salt water. Kahakai then means the mark of the sea, the junction or edge of the sea and land. See Andrews' Hawaiian dictionary.

Houston (1953) noted that the court did not adopt the precise meaning implied by the etymology. He commented:

> The decision...attempts to define as a "junction" or "edge" what is in the dictionary, very definitely set out as an "area" or "region".
>
> The court then continued: "By extension of the term beyond its strictest etymological meaning, it means the sea shore." Yet that is the primary definition given in Andrews, not by extension but by the exact words of the book."
>
> The decision in the Halstead v. Gay case then says: "We hold that in the description of this survey (kahakai) it means the high water mark on the sea beach. 'A hiki i kahakai' is then to be translated 'reaching to high water mark' ", instead of to the sea beach; into the beach instead of to the beach.

(The emphases indicated in the last paragraph were supplied by Houston.)

It is clear that what Houston was objecting to was the combination of the translation of the term "kahakai" as "high water mark" and the equating of "high water mark" to "high water line."

I concluded some time ago that when it was employed as a makai boundary descriptor, the term "kahakai" was probably used in its etymological sense, "mark of the sea", and referred to a visible mark (Cox, 1978), and that, whether or not it might appropriately be translated as "high water mark", it did not refer to the invisible line of a high tide. In reaching this conclusion my reasoning was not entirely independent of Houston's opinions. I had heard Houston discuss the matter many years earlier, but at the time I first expressed the conclusion I was not aware of the newspaper articles setting forth Houston's reasoning in full.

There are a number of different "marks of the sea" that from place to place can be identified with sufficient precision to serve as land boundaries. These include the toes of beaches, limu lines on rock, foam and debris lines left by waves, vegetation lines, beach crests, and junctions of beach and dune slopes. The most consistent of these marks are the vegetation line, the uppermost debris line, and the crest of the uppermost beach berm. These represent the normal uppermost reaches of the waves where, in Houston's opinion, and in that of Abraham Piianaia, (personal communication), it was intended usually that makai boundaries be located.

I have therefore concluded that, where the intent in using the term "kahakai" in a makai boundary description was to refer to a reasonably precise visible "mark of the sea" it referred to one of these marks of the landward limit of normal wave wash.

With respect to any particular boundary, the original intent to refer to a mark locatable with reasonable precision cannot ordinarily be established. However, interpretation of the term "kahakai" as referring to these marks satisfies the desideratum of boundary-practice conformity with land use as seen by Houston.

This interpretation satisfies also the desideratum of modern public policy as suggested by the State Land Use Act of 1963 as interpreted in the regulations of the Land Use Commission, by the Shoreline Setback Act of 1970, by the Environmental Policy Act of 1974, by the Shoreline Protection Act of 1975, and by the Coastal Zone Management law as initially enacted and subsequently amended.

The marks of the landward limit of normal wave wash generally satisfy, as well as any visible mark on any particular coast, the desideratum of physical stability. On a stable coast, these marks may be less stable than a mark such as a limu line, and a limu line would satisfy better the desideratum of precision. However, limu lines are restricted to rocky coasts whereas, according to the 1924 opinion of the Attorney General, the term "kahakai" was used generally in the description of makai boundaries at beaches.

No interpretation of "kahakai" can entirely satisfy the desideratum of conformity to precedent. In interpreting "ma kahakai" in Halstead v. Gay as meaning "along high water mark" and in Territory v. Kerr as meaning "along high water line" the Hawaii Supreme Court may have intended to refer to lines precisely defined in terms of high tide levels. And the Land Court may have issued decrees substituting high tide lines for original "kahakai" boundaries. However, in Sanborn (1977), the Supreme Court held that "the line of high water mark...is the upper reaches of the wash of waves...."

Taken together, the various pertinent desiderata seem to me to support the conclusion that the term "kahakai" should be interpreted as referring to one of the visible marks of the landward limit of normal wave wash, such as the "vegetation line" or the "debris line", as I have defined those terms, or simply as meaning the "wave-wash line" as I will define that term.

Kai

The word "kai" appears in several phrases used as makai boundary descriptors. Pukui and Elbert give for the meanings of "kai" appropriate to location: "sea", "sea water" or "area near the sea", but the last would be quite useless in defining the location of a boundary. In English, the term "sea" may refer to the ocean generally, to the open ocean as "the high seas", or to the waves of the ocean as "in a high sea" or a "fully developed sea". In most of the phrases used as makai boundary descriptors, "kai" appears properly translated as "sea" in the sense of the ocean in general.

Ma ke kai or ma kapa o ke kai

"Ma ke kai" is among the makai boundary descriptors listed by Houston (1953) and was the descriptor used in the original grants for the boundary at issue in Ashford (1968). This was properly agreed to by the parties in the case as translated "along the sea". The meaning is surely the same as the more specific descriptor "ma kapa o ke kai", which was applied in the original award and patent to the makai boundary of the Kalaeloa land that was at issue in Brown v. Spreckels (1902, 1905) and was properly translated in that case as "along the edge of the sea."

The Kalaeloa land was considered in Brown v. Spreckels (1902) to extend "at least to high water mark" and in Brown v. Spreckels (1906) to "low water mark", but this further extension was based mainly on references to the "beach" in the boundary description. In Ashford "ma ke kai" was interpreted by the Land Court and by Justice Marumoto as meaning "along high water mark" in the sense of the "line of high tide", but the State Supreme Court ruled that it meant "along the upper reaches of the wash of the waves, usually evidenced by the edge of vegetation or by the line of debris left by the wash of waves." In Sotomura (1978) the Federal District Court concluded that the Supreme Court's interpretation in Ashford was dictum because it was based on testimony that had been excluded from the case (although perpetuated in the record) and hence had not been subject to cross-examination. This last conclusion also was dictum, however, because the Ashford boundary was not at issue in Sotomura.

As res judicata, the State Supreme Court's interpretation of "ma ke kai" in Ashford seems binding with respect to the Ashford boundary. Although its broader applicability is in doubt, the interpretation as "along the uppermost reaches of the waves, usually evidenced by the edge of vegetation or by the line of debris left by the waves" is consistent with the usual intent in establishing makai boundaries perceived by Houston.

Kai konohiki

"Kai konohiki" was among the makai boundary descriptors listed by Houston (1953). A "konohiki" was the headman of an ahupuaa land division under a chief, but the term was used also to refer to the land or fishing rights under his control. In a draft of this paper I suggested that such rights would have had little importance in areas not covered by water at least at the lowest tide, but that the "kai konohiki" might perhaps be considered to extend landward to the "kahakai" interpreted as a visible mark such as the vegetation line or the uppermost debris line. Two reviewers objected to this suggestion, but in opposite ways.

In the opinion of C.R. Ashford, an attorney (personal communication), the shore immediately seaward of the vegetation line is land and could not be included in the sea, "kai", of the konohiki. However in the opinion of Abraham Piianaia, (personal communication), the "kai konohiki" referred to the fishing grounds whose control by the konohiki was recognized in the 1839 statute regarding property and in the 1845 Organic Act, and the landward boundary of these fishing grounds was defined in those statutes, the "kahakai" was a visible mark such as those I suggested. Piianaia pointed out that the control of the konohiki was not restricted to fish, but extended to other edible and inedible resources, including the sand crabs, "ohiki", that burrowed in the upper part of the beach slope.

Except as I note that driftwood was excluded from the control of the konohiki after 1851 by the statutory provision perpetuated in HRS 7-2, it seems to me that Piianaia's opinion has the greater weight. I conclude, therefore, that the makai boundary of a parcel extending seaward only to the "kai konohiki" should be considered to follow the "kahakai" as I have defined that term.

Kai hohonu, kai hua, kai ki, kai nui,
kai piha, kai pii, and kai ulu

On the basis of definitions in Andrews, Houston listed the terms "kai hohonu", "kai hua", "kai ki", "kai piha", "kai nui", and "kai ulu" as referring to "high tide". "Kai pii" also may mean "high tide" according to Pukui and Elbert.

The only one of these terms that I know to have been used in a makai boundary description is "kai nui" in the phrase "ka lihi kai nui." However, Ashford tells me he has also seen "kai piha" used in this context. The usage known to me was in the Hawaiian version of the grant at Hana, Maui, that was the subject of Opinion 1117 (1924) of the Attorney General. In the English version the phrase was represented at one point by "high water mark" and at another point by "harbor." It had been suggested that the phrase referred to the "edge" (lihi) of "deep water", but in the opinion of the Attorney General "kai nui", like "kai piha" meant "high tide" and the phrase referred to "mark on the rock made by the sea at high tide." The opinion did not indicate whether this referred to a visible mark or the invisible "line of high tide."

There are meanings alternative to "high tide" that should be considered in the case of the other terms if they have been used in makai boundary descriptors.

According to Pukui and Elbert, the term "kai hohonu" may mean deep sea as well as high tide. Although possibly interpretable as referring to a high tide line or even as a wave wash line, if it is used as a boundary descriptor it, like "lihikai nui," might well refer to the edge of deep water, in other words the outer edge of the reef.

According to Andrews, "kai hua" may mean high sea as well as high tide. Its etymology suggests something more specific in the content of makai boundary description. Pukui and Elbert give for a second meaning of hua: rim, border, edge, hem, or the ruffles and tucks at the bottom of a dress, but this meaning seems derivative from the first which is foam, froth, bubbles, or suds. There are often foam lines on the shore, moving inland with the runup of each wave and left on the shore. If the term is used as a boundary descriptor it might perhaps be interpreted as the line of average wave runup, but more reasonably as a line of maximum wave runup, and quite possibly as the line of annual maximum wave runup, which would be essentially coincident with the uppermost debris line and vegetation line.

According to Andrews, "kai ki" means high water as well as high tide. However, Pukui and Elbert translate it as tide beginning to flow in or a "shooting sea". "Ki" means not only shoot but squirt and spit. If used as a boundary descriptor, the term "kai ki" might refer to a high-tide line and might even refer to a low-tide line or a mean tide line, if the sea were considered to begin to flow in at low or mid tide. However, it seems more likely to refer to a line reached by the spurts of water caused by waves, and hence to be more nearly equivalent to a wave-wash line, and possibly the uppermost wave wash line.

According to Pukui and Elbert, "kai piha", if piha is spelled without diacritical marks, means "high sea, high tide, full sea, spring tide." A "kai piha" boundary might therefore be equivalent to the line of mean high tide, the line of spring tides or of mean higher high tide, or a line defined by wave wash under high-sea conditions. A much more specific meaning is suggested by the translation of the accented form, "pīhā", material of any sort carried by flood waters of the sea, flotsam and jetsam, driftwood. The use of diacritical marks is a recent innovation. Hence "kai piha" may certainly be interpreted in the context of boundary description as referring to a debris line, and in the light of Houston's opinion of the usual intention in establishing seashore boundaries as the uppermost debris line.

According to Pukui and Elbert, the term "kai pii" may mean either high tide or rising tide. "Pii" means to go inland or (hoopii) to cause to rise, mount, come up. "Kai pii," if used as a boundary descriptor, seems unlikely to have referred to a rising tide and almost as likely to refer to the inland encroachment or mounting of the shore by the sea, due to waves, as to a high-tide line.

Pukui and Elbert translate "kai ulu" as sea at full tide or mounting sea. "Ulu" means to grow, increase, or spread. If used as a boundary descriptor, "kai ulu" seems to have the same possible diversity of meanings as "kai pii."

Kai make, kai malolo, kai maloo, and kai hoi

Houston (1953) listed "kai make", "kai hoi", and "kai maloo", as meaning low tide, and according to Pukui and Elbert, "kai malolo" also may mean low tide. According to Houston, "ma ka lihikai maloo" was used as a makai boundary descriptor. "Maloo" means dry, and "kai maloo" means "low tide", as when the reef is exposed, according to Pukui and Elbert. Hence "ma ka lihikai maloo" may be translated as "along the low-tide line." "Kai make" also means low tide according to Pukui and Elbert. "Kai hoi" however, means "ebbing sea" according to Pukui and Elbert, in other words the falling tide, and if it has ever been used in a makai boundary description the intention of its use would be difficult to determine.

Holulu, kai ku, kai mau, kai moku, and kai pu

Houston (1953) listed "kai mau" and "kai moku" as referring to "mid tide". However, Pukui and Elbert translate "kai moku" (literally "cut sea") as the turning of the tide, which might be either at low or high tide, and instead of "kai mau" give "kai maumau". They list "holulu", "kai ku", and "kai pu" as terms meaning low tide. If these terms have been used in boundary descriptions, they would best be translated as "half tide."

Ambiguous or imprecise English terms

Among the English-language terms used in original makai boundary descriptions in Hawaii or in the translation of Hawaiian-language boundary descriptions, only the mean tide lines earlier discussed are both free from ambiguity and precise. The neap and spring tide lines and the vegetation lines, and debris lines are only slightly ambiguous and could be defined precisely, as indicated earlier. However, the makai boundary descriptor most commonly used, "high water mark", has been interpreted more or less authoritatively in at least two distinct ways. In the light of the ambiguity of that descriptor other descriptors using the term "mark" must also be considered ambiguous, including the descriptor that has perhaps been used next most commonly, "low water mark." There are several other terms that have been used either as translations of Hawaiian-language terms or as original boundary descriptors to which different meanings may be assigned or that are so imprecise as to be worthless as boundary descriptors without considerable interpretation.

Shoreline

I am not certain that the term "shoreline" has ever been used in Hawaii by itself as the descriptor of a makai property boundary, whether originally or as the translation of a Hawaiian term. If it has, considerable interpretation or choice would be necessary, because all of the other boundary terms, with all of their variety of meanings, could be considered "shorelines." The term "shoreline" is employed as a basis for land-use regulation in HRS 205-31, HRS 205A-1, and HRS 205A 22-5 these statutes define the "shoreline" as a "wave wash line" as evidenced by a "vegetation line" or a "debris line", terms whose meanings have already been discussed.

Sea and seashore

The term "sea" was used in the descriptions of several of the boundaries involved in the cases discussed in Chapters II and III, for example: "following the edge of the sea" in the English version of a deed in Haalelea v. Montgomery (1858); "by the sea" in an early document referred to in Kanaiana v. Long (1872); "along the edge of the sea" as a translation of "ma kapa o ke kai" in Brown v. Spreckels (1902, 1906); and "along the sea" as a translation of "ma ke kai" in Ashford (1968) and in the original grants in Zimring. According to Opinion 1589 (1932) of the Attorney General, the term "seashore" also has been used as a makai boundary descriptor.

In Opinion 1589 these terms were interpreted as meaning "high water mark" and this interpretation was applied by the Hawaii Supreme Court in each of the cases listed above in which the makai boundary was actually at issue except Brown v. Spreckels. In that case the Supreme Court first held (1902) that the land extended at least to "high water mark," but later held (1906) that it extended to "low water mark," largely because the original boundary definition involved the term "beach" as well. However, the term "high water mark" has been considered to mean several different lines, and hence the interpretation of descriptors such as "along the sea" or "along the seashore" depends upon the interpretation of "high water mark".

Reef

One of the exceptions to makai boundaries interpretable as "high water mark" that was recognized in a 1958 letter from the Attorney General's Office to the Honolulu County Fishery Advisory Committee was that of private property extending to the "reef".

If the term reef was originally used in English, and if the context of its use indicates that it was the landward edge of the reef, it would seem intended that the property boundary should be coincident with the geologic boundary between the modern coral-algal reef and the unconsolidated sand, beachrock, lavarock, or ancient reefrock along the shore.

The term may have been used, however, as a translation of "kua nalu", in which case it referred to the place where the waves mount before breaking (see section on "Statutes considered to imply makai boundary locations"), or as a translation of "kai konohiki", whose meaning I have discussed along with the meanings of other Hawaiian terms.

Wave-wash line and the reach of waves

The title abstractor who testified in Sotomura (1978) concerning the use of the "debris line" and "vegetation line" stated that the term "highest reach of waves" was not used in any original grant of title by the government. However, the State Supreme Court in Ashford (1968), in Sotomura (1973), and in Sanborn (1977) interpreted "high water mark" to mean the "upper reaches of the wash of waves." In Sotomura the Court was more specific, at least in describing the vegetation line and the debris line as referring to the "upper reaches of the wash of waves over the course of a year."

The "upper reaches of the wash of waves" is qualified in the definition of "shoreline" in HRS 205-31 as "other than storm or tidal waves." The Land Use Commission defined the inland boundary of the Conservation District along the shore as at the "maximum inland line of the zone of wave action" and the "furthest extent to which the maximum annual wave advances inland". In both of these definitions the wave-wash line was considered marked by a "vegetation line" or a "debris line".

SB 1947 (1976) proposed that all makai boundaries not defined by surveys be considered at the "normal upper reach of waves, other than storm or tidal waves" as evidenced by vegetation or debris lines.

In theory there is no definable upper limit of wave wash. On most Hawaiian shores, the greatest inundation results from tsunamis. On any particular shore more extensive tsunami inundation may be expected at some time during a long interval, such as 100 years, than at any time during a short interval, such as 10 years. The same relation between extent of expectable inundation and recurrence interval exists with respect to ordinary waves. However, an upper limit of wave wash may usefully be defined in statistical terms as that which is expectable with a certain recurrence interval.

A "wave wash line" defined as the "normal annual landward limit of wave inundation" is suggested by the Supreme Court reference (Sotomura, 1973) of the "vegetation line" to the "upper reaches of the wash of the waves over the course of a year" and by the Land Use Commission reference of the boundary of the Conservation District to the "farthest extent to which the maximum annual wave advances inland."

Although the word "normal" is itself subject to some ambiguity, its use in the law is not uncommon, and the courts have interpreted it, where necessary, in statistical terms. In a later section on the "normal annual landward limit of wave inundation", I will discuss two alternative statistical concepts that in theory might be applied to the identification and location of this limit, and also several physical evidences that will, in practice, make it unnecessary except in very rare instances to determine its position through the application of theory.

It will suffice here to note that the physical evidences of the "wave-wash line", defined as suggested, include the "vegetation line" and the "debris line", as I have defined those lines, and by the crest of the uppermost beach berm, and that it is therefore equivalent to the "kahakai".

The wave-wash line thus defined is ambiguous only to the extent that it may be marked on some coasts by a combination of a vegetation line, debris line, and beach crest that are not exactly coincident. In general these lines lie within a couple of feet of each other. In the light of the actual importance of precision in determining land value indicated earlier, the significance of the imprecision resulting from this ambiguity seems slight.

Mark of the sea

As indicated in the discussion of the meaning of "kahakai", "mark of the sea" has been used as a translation of that term. It is, in my opinion a proper translation, if the mark of the sea refers to a visible mark. For reasons given earlier, I believe that "mark of the sea" should be interpreted as referring to the vegetation line or the uppermost debris line, at least when it is a translation of "kahakai." If it has been used as an original boundary descriptor, it is my opinion that it should be interpreted in the same way unless the context clearly indicates something different. The possibility of a different interpretation will be suggested by the following discussion of other terms using the word "mark."

Low water mark

The term "low water mark" was used in the descriptions of the makai boundaries that were at issue in two of the cases discussed in Chapter III. In Territory v. Liliuokalani (1902) the boundary had been described as "along the sea at low water mark", and the claim of the Territory that the boundary was at the high water mark was rejected by the Supreme Court. A deed to the Kalaeloa land in Brown v. Spreckels referred to a "right of extension to low water mark"; the original deed to the Bates land in this case included the "sea beach...down to low water mark"; and in the final decision of the Hawaii Supreme Court (Brown v. Spreckels, 1906), the makai boundaries of both lands were at the "low water mark." The Waikiki Beach Agreement of 1929 recognized that the makai boundaries of two parcels at Waikiki were at the "low water mark".

Although the term "mean high water mark" has been used in interpreting makai boundary descriptions, the equivalent term "mean low water mark" does not seem to have been used in this way, and I have found no discussion of "low water mark" in relation to the "neap-and spring-tide lines" similar to the discussion of high water mark in Opinion 1589 (1932) of the Attorney General. Nevertheless, the most reasonable interpretation of the "low water mark" seems to me to be that it is the "line of mean low tide."

My only reasons for including "low water mark" among the ambiguous boundary descriptors are that the sea at mean low tide leaves no visible mark, and that there are substantial reasons for considering, as the State Supreme Court has in recent cases, that the similar term "high water mark" refers to a visible mark and not a tide line.

Sea at low tide and sea at very low tide

In Sotomura (1978), the Federal District Court referred to the use of the terms "sea at low tide" and "sea at very low tide" as boundary descriptors used in some places.

The term "sea at low tide" may have been used as a translation of one of the Hawaiian-language terms referring to low tide (see above), whether used thus or originally in English, it seems best interpreted as referring to the line of mean low tide.

The term "sea at very low tide" may also have been used as a translation of a Hawaiian-language term, although I am not aware what the Hawaiian-language equivalent might be. How low a tide must be to be "very low" is not clear, but interpretation of the term as referring to the "line of mean lower low tide" seems reasonable. Interpretation as the "line of mean spring low tides" is an alternative.

Wading limit

One of the exceptions to makai boundaries interpretable as "high water mark" that was recognized in the 1958 letter from the Attorney General's Office to the Honolulu County Fishery Advisory Committee was that of private property extending "as far as a man can wade". The depth to which a man can wade depends on his height; whether he is willing to become wet to the knees, the waist, the chest, etc.; on the tide stage; and on the height and force of the waves. Hence I can offer no general opinion as to the interpretation of a makai boundary described in relation to a limit to wading.

Sea at high tide

Like the terms "sea at low tide" and "sea at very low tide", the term "sea at high tide" was referred to by the Federal District Court in Sotomura (1978) as a boundary descriptor used in some places. For reasons paralleling those in the discussion of those other terms, if "sea at high tide" was originally used in the English language as a boundary descriptor, it seems best interpreted as referring to the "line of mean high tide." If, however, the original usage was a Hawaiian-language term that has been translated as sea at high tide, the interpretation should be based on the meaning of the original Hawaiian term. The meaning of several Hawaiian terms that might thus be translated have already been discussed. For reasons to be indicated in the discussion of high water mark, the possibility that the description actually referred to a visible mark should not be wholly discounted, especially if the context of the use suggests this possibility.

Line of high water and line of mean high water mark

The term "line of high water" was used by the Hawaii Supreme Court as an interpretation of the makai boundary descriptor in Territory v. Kerr (1905), "ma kahakai." The Court cited Halstead v. Gay (1889) in making this interpretation, although in that

earlier case the Court had referred to "high water mark." Evidently the Court considered "high water line" synonymous with "high water mark". Apart from the question whether "ma kahakai" is properly regarded as meaning either of these English terms, and the question of the meaning of high water mark which I will address shortly, there is the question what the "line of high water" means.

The confusion between high water lines and high water marks is illustrated further by the use of terms including either the word "line" or the word "mean" with the word "mark". In the Waikiki Beach Agreement of 1927, both the term "line of mean high water mark" and the term "high water mark" were used to refer to the same makai boundaries. SB 1786 (1979) proposed that the makai boundaries of all land not registered in the Land Court be the "mean high water mark."

If "high water mark" were appropriately to be defined as a tide line, I suppose that the meaning most reasonably attributed to that term, to the "line of mean high water mark", and to the "line of high water" would be the "line of mean high water", although the discussion in Opinion 1589 (1932) of the Attorney General might suggest that it was the "line of neap high tide" or more precisely the "line of mean neap high tide."

Higher high water mark

I do not know whether the term "higher high water mark" has ever been used as a boundary descriptor in Hawaii. If it has, the sophistication indicated by the distinction of the higher of two high tides suggests that was meant to be synonymous with the "line of higher high tide." However, it should be recognized that visible marks left at times of high tide are actually left by waves, that they are above the high tide line, and that those marks left by the waves at higher high tide tend to persist longer than those left at lower high tide. Hence there is the possibility that the term "higher high water mark" might refer to a visible mark, although this possibility is not so great as that in the case of the term not distinguishing the higher of the two high tides.

High water mark

The term that seems to have been used most commonly in the descriptions of shoreline boundaries, either as an original descriptor, as a translation of an original Hawaiian-language descriptor, or as an interpretation of an original descriptor, is "high water mark." According to Houston (1953), the term came into use in Hawaii during the reign of Kalakaua, 1836 to 1891, although if was earlier used in common law elsewhere. Houston does not make clear whether the early Hawaiian use of the term was as an original boundary descriptor or as a translation of Hawaiian-language boundary descriptors.

In recognizing the common use of the term in grants the Attorney General in Opinion 1589 (1932) stated: "The only question is as to what constitutes the high water mark which is controlling in grants of this sort." As recognized in Sanborn (1977): "As of 1951, neither the Hawaii Supreme Court nor the legislature had defined high water mark for this jurisdiction." The first Supreme Court case in which a definition of the term was introduced seems to have been Sotomura (1973). As will be seen, the Attorney General in 1977 and the Supreme Court in and subsequent to 1973 came to different conclusions as to the meaning of the term.

In the absence of other considerations, arguments paralleling those introduced in the discussions of the meanings of "low water mark", "lower low water mark", "mid-tide mark", and "higher high water mark" would lead inevitably to the interpretation of the high water mark as the line of mean high tide. There are, however, other considerations.

The term "high water mark" has been considered to be the equivalent of at least two Hawaiian boundary descriptors:

a) Kahakai

   i) as the inland boundary of an area subject to fishing rights in the English translation of the fishing rights provision in the Organic Act of 1846; and

   ii) as a makai boundary descriptor in the Supreme Court decision in Halstead v. Gay (1889).

b) Ma ke kai

   By Justice Marumoto in his dissenting opinion in Ashford (1968).

It has also been used itself as a makai boundary descriptor:

i) in deeds to the shorefront parcels with which Klausmeyer v. Makaha (1956) dealt; and

ii) in the original Land Court decrees concerning the lands in Castle (1973), in Sotomura (1973), in Sanborn (1977), and in two other cases referred to by Justice Marumoto in his dissent in Ashford (1968).

The term has been interpreted in Hawaii in seven more or less distinctly different ways:

a) The line of "ordinary" high tide, not necessarily determined by accurate gaging:

   In the instructions of the Government Surveyor from 1882 (according to 1940 testimony by A.C. Alexander in Land Court Application 1225. See Marumoto dissent, Ashford, 1968).

b) A neap-high-tide line:

   As the preferable alternative proposed by the Attorney General in Opinion 1589 (1932).

c) The line of mean high tide:

   i) As the less preferable alternative proposed by the Attorney General in Opinion 1589 (1932);

   ii) As one alternate in the Federal Court decision in Sotomura (1978), (see also c iii) and e iv));

iii) In a 1932 written opinion of the Attorney General relating to private/public boundaries (See Marumoto's dissent in Ashford, 1968); and in other instructions of the Attorney General issued in 1932, 1936, and 1958 (See Sotomura, 1978); and

iv) As an interpretation of "ma kahakai" and "a hiki i kahakai," in the Supreme Court decision in Halstead vs. Gay (1889).

d) The limu line:

i) In the survey of the Sotomura property accepted by the Land Court (See Sotomura, 1978);

ii) In the claim of the defendants in Sotomura; and

iii) As a second alternate in the Federal Court Decision in Sotomura (1978) (See also b i) and e iv)).

e) A line lying significantly makai of the mauka edge of the sand beach; as an interpretation of "ma kahakai" claimed by the defendant in Halstead v. Gay (1889).

f) A debris line:

i) In the 1969 county survey of the Sotomura property;

ii) In Justice Marumoto's dissent in Sotomura (1973);

iii) In effect through the Federal Court's judgement as to recompense in Sotomura (1978) (See also b i) and c iii)); and

iv) In a 1953 opinion of the Attorney General (See Marumoto's dissent in Ashford, 1968).

g) The vegetation line:

i) In official surveys of government lands since 1920 (testimony by Dunn, in Ashford. See Marumoto's dissent in Ashford, 1968);

ii) In the Supreme Court decision in Sotomura, (1973); and

iii) In the Supreme Court decision in Sanborn (1977).

The authors of these interpretations may have intended them to apply generally, and may even have stated them as if applying generally. However, the opinions of the Attorney General are obviously subject to change, as are the practices of the Government Survey Office. Even the decisions of the Supreme Court are, I suppose, to be regarded as dictum and not res judicata in general application.

The meaning of "high water mark" as applied to a particular makai boundary may be res judicata. Its general interpretation, it seems to me must depend significantly on whether the English-language term was itself used in the original boundary description or whether it was used as a translation or interpretation of a Hawaiian-language term.

If the original terminology was Hawaiian, it would seem that the meaning assigned through interpretation should be consistent with the meaning and intent of use of the Hawaiian terminology. The rationale I have presented with respect to several Hawaiian terms that might have been held equivalent to "high water mark" is intended to provide guidance in this respect.

If the original description used the English-language term "high water mark" itself, it seems to me that the time of original use is of great significance in its interpretation. Because a visible, persistent mark of the sea, is a mark associated with high tide, because the Hawaiian term "kahakai", meaning, etymologically, "mark of the sea", was used as a boundary descriptor, and because of the equivalence between "kahakai" and "high water mark" assumed in the translation of the Organic Act of 1846, it seems to me quite likely that the term "high water mark" originally came into use as an English substitute for and equivalent of "kahakai", meaning the vegetation line, a debris line, or the beach crest. The argument that high water mark refers to a high-tide line, and specifically the line of mean high tide appears strongest in the case of original uses describing boundaries established later than some year in the period from 1872 to 1888 during which the program of tide gaging was developed at Honolulu. Even with respect to boundaries established later, however, there it may be questioned whether those establishing the boundaries were aware of, and intended to relate the boundary to, a statistically determined tide line.

The only determinations by the State Supreme Court of the meaning of "high water mark" that were, in effect, interpretations of original Hawaiian terms that had been held to mean "high water mark", seem to have been those in Sotomura (1973) and in Sanborn (1977). The Supreme Court's decision in Sotomura was reversed by the Federal District Court (Sotomura, 1978) on the basis of the res judicata by the Land Court. The Federal Court, however, made two slightly inconsistent interpretations (b i and c iii) and implied a third quite different (e iii), and in any case the reversal does not affect the Sanborn (1977) decision.

On the basis that "high water mark" very likely came into use as an equivalent of "kahakai", on the basis of the meaning that I perceive for "kahakai", and on the basis of the Sanborn (1977) decision, I come to the conclusion that, in Hawaii, the makai boundary descriptor "high water mark" should be considered generally to mean the "vegetation line".

Normal annual landward limit of wave inundation

In earlier sections, I proposed that the "wave wash line" be defined as the normal annual limit of wave inundation. I have also indicated that, as I have defined the several terms, the "wave-wash line" is evidenced by such visible "marks of the sea" as the "vegetation line" and the "debris line", and that "kahakai" and "high water mark" may ordinarily be interpreted as equivalent makai boundary descriptions.

It is my purpose in this section to indicate means by which the "normal annual landward limit of wave inundation" may be defined precisely in terms of statistical concepts; to indicate also that there are other physical evidences of the position of the limit that, with the vegetation line and debris line, will make it unnecessary, except perhaps in very rare cases, to rely on the statistical concepts, and to discuss certain important characteristics of the "wave-wash line" defined as indicated.

The value of some parameter that is considered "normal" for a certain recurrence interval may be defined as that value that is statistically most probable as calculated from either the record of all values associated with this certain interval or from the record of values associated with a variety of intervals including this certain interval. In either case the period of record must be a long one. The most probable annual value would be defined in the first case as an average of all of the historic annual values in the period of record. The average ordinarily used is the median. In the second case the most probable annual value is the value associated with an annual recurrence interval on a curve relating values to recurrence intervals that has been fitted to the distribution of historic values by recurrence intervals for the period of record.

The "normal annual landward limit of wave inundation" might in theory be determined in accordance with either of these statistical concepts, not only on stable shores, but on beach shores subject to annual and longer-term reversing shifts in position, on beaches subject to progressive erosion or accretion, and on shores that have been subject to such shifts as those caused by coastal subsidence or lava-flow extension. In the case of a beach progressively eroded or accreted, the historic limits in the period of observation would have to be adjusted to the trend in beach position. In the case of a shore shifted landward by coastal subsidence or landward by lava-flow extension, the results would be two "normal" limits one applying before the shift, the other afterward.

I am not aware of any studies of wave inundation limits that would allow comparison of the positions of the "normal" annual limits established in accordance with either of the two statistical concepts identified above. Such a study would have to involve monitoring of wave inundation over a period of many years at least, preferably a century or more. I doubt, however, that there would be great differences between the two positions, even on unstable shores where the differences would be accentuated. It is my opinion that either of the two may be considered reasonably approximated by the "vegetation line," the debris line, the crest of the uppermost beach berm, and a few other physical features. Although no one of these features is continuous, in combination they indicate the position of the normal annual inland limit of wave wash on almost all Hawaiian coastlines.

As indicated in earlier sections, it is wave inundation that accounts for the presence and location of the "vegetation line" and "debris line."

Beach berms also result from wave action, and the position of the crest of the uppermost beach berm is determined by the maximum extent of wave inundation, combining the effects of seasonal beach retreat, high waves, and high tides.

Where there is a shoreline dune or dune ridge, the crest of the dunes does not mark the "wave wash line" as is implied by the Land Use Commission definition of the inland boundary of the Conservation District. However, the limit of wave effects on a beach-dune shore is often indicated by a change in slope, and even where there is no beach crest, the base of the dune at this change in slope is evidence of the annual inland limit of wave inundation.

Most shores lacking an identifiable vegetation line, debris line, beach crest line or dune base line, that corresponds to the normal annual inland limit of wave inundation, are cliff shores. The cliffs on most such shores are wave cut. They may range in height from several feet, as on coasts of geologically recent lava flows, to a few thousand feet as on the Na Pali coast of Kauai and the windward coast of Molokai. Vegetation lines on the tops of such cliffs have no relation to wave inundation. The cliffs may rise directly from the sea or may be fronted by wave-cut benches or, in some places at some seasons, by low beaches.

Where there is a wave-cut bench fronting such a cliff, the normal annual inland limit of wave wash is at the foot of the cliff, and it is there that debris may be found, if any is left by the waves. Where there is no beach, the normal annual limit of wave wash is on the face of the cliff, but this limit is ordinarily vertically above the base of the cliff. Hence on any cliff coast the normal annual horizontal limit of wave wash may be considered marked by the base of the cliff.

If the natural shores of the major Hawaiian Islands are distinguished as they consist of wave-cut cliffs (low as well as high), beaches, or "other" natural shores, the largest fraction of the total length on every island is represented by the wave-crest cliffs on which the wave-wash line, as I have described it, is evidenced by the base of the cliffs. On the island of Hawaii the largest of the remaining fractions may be represented by the "other" natural shores, but on the other islands the largest fraction is represented by beaches. On the beaches the wave-wash line is evidenced almost everywhere by vegetation lines, debris lines, dune-base lines, or some combination of these.

It is on the "other" natural shores such as those of historic lava flows, that there are fewest evidences of the wave-wash line, but even on these shores spotty deposits of wave-cast debris and spotty patches of vegetation may usually be found that provide evidence of the wave-wash line. Makai boundaries following the wave-wash line may, thus, be determined by physical evidence almost everywhere, and it would seem that expert estimation would be sufficient to locate such a makai boundary in the rare case of a lack of clear physical evidences without resort to a lengthy period of wave-inundation monitoring and a statistical analysis.

The wave-wash line determined on the basis of physical evidence is ambiguous only to the extent that, on any particular shoreline: 1) there may be two or more of the evidences of its position that do not exactly coincide; and 2) the evidences are spotty. Multiple evidences are most common on beaches, but on beach shores the advantage of the stability of the wave-wash line seems far greater than the disadvantage of the lack of precision associated with the ambiguity. Spottiness of evidences, as indicated above, is most common on the "other" natural shores. But where the evidences are spotty on these shores the land values are in general small, and hence the lack of precision associated with the ambiguity is of relatively small importance.

In summary, it is my opinion that, where a makai boundary may be interpreted as a "wave-wash line", this line should be defined in a way that indicates what recurrence interval of wave inundation is referred to, but that depends primarily on visible physical evidences, and evidences of more kinds than have been identified in any of the court decisions, statutes, or regulations reviewed in this report:

> The "wave-wash line" means the normal annual landward limit of wave inundation as evidenced by the vegetation line, the uppermost debris line, the crest of the uppermost beach berm, the base of a shoreline dune, or the base of a wave-cut cliff.

Summary

To the extent that tide lines may have been used in authoritative descriptions of makai boundaries, these lines need no interpretation. Their standard definitions indicate their meanings.

"Low water mark", at least if used as an authoritative makai boundary descriptor and not as an English translation of a Hawaiian term, should in my opinion be interpreted as referring to the line of mean low tide.

A makai boundary originally described as "ma ke kai", as "ma kahakai" or as at "high water mark" should, in my opinion, be interpreted as referring to the "wave-wash line" defined as the normal annual landward limit of wave inundation as evidenced by the vegetation line, the uppermost debris line, or the crest of the uppermost beach berm, the base of a shoreline dune, or the base of a wave-cut cliff. Most of the other boundary descriptors that may have been used should, in my opinion be interpreted as meaning this "wave-wash line".

However, if the context of the use of a term clearly indicates a difference between the original intention in its use and the interpretation I indicate, the original intention should prevail.

If a definition of a boundary has been authoritatively changed (as by a Land Court decision) since the boundary was originally established, the new description should be subject to interpretation in accordance with the opinions expressed above.

IX. SUGGESTED STATUTORY CHANGES

Rationale

Prior to its issuance, this report was reviewed by a few interested persons with competence to judge its merit from one standpoint or another. Until it is subject to much more extensive critical review, I am reluctant to express as formal recommendations any opinion as to how the issues I have addressed that remain legally unresolved should be dealt with in the future. The readers of the report may, however, appropriately take the opinions I have expressed in Chapter VI as to the proper interpretation of various makai boundary descriptors as suggestions of meanings that the courts should adopt for these descriptors. They may appropriately take the conclusions I have reached in Chapter V as suggestions as to which issues are moot, which seem satisfactorily resolved, and which remain unresolved or unsatisfactorily resolved, and, with respect to the last, appropriate directions of resolution.

The introduction of SB 1947 in the 1976 Legislature and SB 1786 in the 1979 Legislature indicates that some legislators have considered that statutory guidance would be helpful in reducing the ambiguities of many of the makai boundary descriptors, and perhaps in introducing some greater degree of uniformity in the interpretation of these descriptors, although, as I have pointed out, complete uniformity is impossible. The failure of either of these bills to pass may indicate that the Legislature as a whole considered either that statutory guidance would be inappropriate or simply that the provisions proposed in the bills were inappropriate and the investigation of the issues had been insufficient to indicate what provisions would be appropriate.

Unless the Legislature considered and still considers the provision of statutory guidance inappropriate, I suggest that the passage of legislation pertinent to the makai boundary issues should again be sought. I suggest further that the investigations of the makai boundary issues, including those reflected in this report and in its critical review by others, now form a sufficient basis for framing the legislation appropriately. On the assumption that the conclusions that will be drawn by others from all of the investigations may be similar to the conclusions I have reached, I summarize below my suggestions as to statutory provisions that would be appropriate. These are presented in outline form so that I can conveniently summarize my reasons for each suggestion following its presentation. Some of the suggestions relate to regulatory limits rather than makai properties boundaries.

Provisions relating to makai property boundaries

(I) Provide that the makai boundaries of shorefront property in Hawaii, with certain exceptions, follow a wave-wash limit as evidenced by certain visible natural features.

This provision is consistent with the decisions of the State Supreme Court in Ashford (1968), Sotomura (1973), and Sanborn (1977) except as noted under I-A. It is also consistent with the provisions proposed in SB 1947 (1976) and in SB 1786 (1979). It is also consistent with my interpretation of the meanings of "ma kahakai", "ma ke kai", and "high water mark" in makai boundary descriptions, but not with my interpretation of the meaning of "low water mark" (See I-A-1).

The provision is also consistent with the definition of "shoreline" in the Shoreline Setback Act and the Coastal Zone Management Act and with the definition of the inland boundary of the Conservation District by the Land Use Commission.

> (I-A) Define the exceptions in (I) as boundaries that have been described authoritatively in ways that are inconsistent with the general definition.

The provisions for exceptions is suggested in the light of the finding in this report of irreconcilable differences among authoritative descriptions of makai boundaries. It is not consistent with the consideration of the Supreme Court in Sotomura and Sanborn that the boundary interpretation it made in Ashford and Sotomura should be applied to all makai boundaries.

The provision is consistent with the recognition of exceptions to the uniform boundary descriptions proposed in SB 1947 (1976) and SB 1786 (1979) but inconsistent with the exceptions specifically recognized in these bills.

The exception of boundaries defined by surveys as proposed in SB 1947 would be inconsistent with the ruling of the Supreme Court that the surveys represent meander lines rather than the actual boundaries, and with the shifts in boundaries that may result from natural shifts of the shores. I have considered whether it is worth providing through legislation that, if there is a discrepancy between a survey definition of a makai boundary and a description of the boundary in terms of a natural feature or tide line, it is the description that is authoratative. However, the principle seems so well established in McCandless v. Du Roi (1915) that this does not seem necessary.

The exception of boundaries accepted by the Land Court proposed in SB 1786 is appropriate (except as these may have been defined by surveys unrelated to natural features).

However, authoritative determinations of makai boundaries are not limited to the Land Court decrees. I think it unwise to specify in a statute what the exceptions should be, other than the following:

> (I-A-1) Define "low water mark" when used as a makai boundary descriptor, as the line of mean low tide.

I suggest this provision to settle what is meant by "low water mark".

Makai boundaries described as "low water mark" represent the principal exception to the standard definition I suggest. No visible mark is ordinarily associated with low water but the term has not been defined as any particular tide line. For reasons indicated earlier I think the term best interpreted in accordance with the proposed definition.

It is possible that, rather than incorporating the provision in a statute, the same effect should be achieved through the recognition that a low-water boundary is inconsistent with the proposed general interpretation in a legislative committee report concerning the statute.

> (I-B) Define the limit of wave wash in (I) as the normal annual landward limit of wave inundation.

This provision is not inconsistent with, but is more specific than, that in the Supreme Court decisions in Ashford, Sotomura, and Sanborn.

The provision is consistent with the definition of the inland boundary of the Conservation Land Use District, with the use of the word "normal" in SB 1947 (1976), and with the exclusion of tsunamis in SB 1947 and in the definition of shoreline in the Shoreline Setback Act. It is, however, inconsistent with the exclusion of storm waves in SB 1947 and the Shoreline Setback Act. There is no clear distinction between the waves generated by storm winds and other wind-generated waves, and moderate storms are expectable in any year.

> (I-C) Define the natural features that may evidence the wave-wash limit in I as including a vegetation line, a debris line, a beach feature, a dune feature, and a cliff feature.

This provision is more or less consistent with those in the Supreme Court decisions in Ashford, Sotomura, and Sanborn; in SB 1947 (1976) and in the definitions of the inland boundary of the Conservation District in the Land Use Commission Regulations and the definition of shoreline in the Shoreline Setback Act. The following exceptions should, however, be noted: i) Cliffs are not mentioned in any of the above, and beach and dune features are not mentioned in any except the definition of the Conservation District Boundary. ii) SB 1947 proposed the use of the mean high tide line where there is no vegetation or debris line, whereas the mean high tide line does not reflect wave wash.

> (I-C-1) Define the vegetation line in I-C as the seaward edge of perennial growth of grasses and small shrubs and of the main stems of higher shrubs, excluding such plants as mangroves that will grow continuously in salt water.

This provision is intended to reduce the ambiguity that is reflected in the decisions or definitions referred to in (I-C) and to increase the precision with which makai boundaries may be located. Some of the details of this definition might be placed in a legislative committee report rather than in statute.

> (I-C-2) Define the debris line in (I-C) as the highest part of the uppermost debris line.

This provision is intended to reduce the ambiguity of those decisions and definitions referred to in I-C that do not distinguish the uppermost debris line from others, and to increase the precision with which makai boundaries may be located. Some of the details of this definition might be placed in a legislative committee report rather than in statute.

> (I-C-3) Identify or define the beach feature in (I-C) as the crest of the uppermost beach berm.

This provision is intended to reflect, but reduce the ambiguity of, the use of the beach crest in the definition of the inland boundary of the Conservation District, which refers only to the beach crest. Some of the detail of this definition might be placed in a legislative committee report rather than in statute.

> (I-C-4) Identify or define the dune feature in (I-C) as the seaward base of a shore dune.

This provision is inconsistent with the definition of the boundary of the Conservation District. In that definition the dune feature is the crest of the dune, but dune crests are much higher than annual wave-wash lines.

> (I-C-5) Define the cliff feature in (I-C) as the base of a wave-cut cliff.

The provision that such a cliff may indicate the limit of annual wave wash is intended to cover the situation where there is a cliff formed by wave erosion on a rocky shore, and where the vegetation line is at or back of the top of the cliff, far above wave wash. Such a cliff may or may not be fronted by a wave-cut terrace or ledge that is inundated by annual storm waves.

> (II) Provide that, if a shore retreats landward or advances seaward by natural processes, the makai boundary of property fronting on that shore shall shift accordingly.

The reasons for this suggestion are that:

i) The Sotomura (1973) case, in which the doctrine of erosion was first adopted in Hawaii by the State Supreme Court, involved a boundary at a shore whose actual retreat could not have been proved by the evidence presented.

ii) Neither the doctrine of erosion nor the doctrine of accretion clearly applies to a boundary on a shore that retreats or advances rapidly but permanently, even if the shifts occur by the same sedimentation processes that are involved in typical erosion and accretion. For reasons indicated earlier, I believe that such a boundary should be considered to shift with the shore shift.

iii) Except for Zimring (1977), no case has been decided by the Hawaii Supreme Court that involved a boundary on a shore that shifted by a natural process other than sedimentation. For reasons indicated earlier, I consider that the Court's decision in Zimring was not wise. I am aware of no constitutional impediment to the adoption of a statutory provision dealing with the problem in general, in the way I have suggested.

Provisions relating to regulatory boundaries

> (III) Revise the definition of "shoreline" in the Shoreline Setback Act (HRS 205-31(2) and in the Coastal Zone Management Act (HRS 205 A-22(4)) in accordance with the definition in (I) without the exceptions in (I-A).

I suggest this because:

i) The present definition is less precise than that proposed and provides little guidance where there is neither a vegetation line nor a debris line.

ii) Although the "shoreline" is the basis for land-use regulation rather than land ownership, there is no purpose to a difference between the definition of the "shoreline" and the definition that will apply to most makai boundaries of shorefront property.

iii) The present definition of "shoreline" unwisely excludes all storm waves, even the waves of ordinary storms, from the determination of the wave wash line.

The exceptions in (I-A) are not pertinent to the definition of the "shoreline," because the "shoreline" for regulatory purposes should be based on wave effects and should not lie seaward of the "wave-wash line" even where, for historic reasons, property ownership extends to the "low water mark."

> (IV) Consider providing that the Land Use Commission shall establish the boundary of the Conservation District at least as far inland as is provided in (I) without the exceptions in (I-A), except where there are compelling reasons for placing it farther seaward.

I do not believe that any changes in the position of the Conservation District boundary would be required by this provision except perhaps at shore dunes. I suggest it, however, because:

i) There is no purpose to a difference between this boundary and the "shoreline" in the Shoreline Setback Act and Coastal Zone Management Act.

ii) The present boundary could be changed by the Land Use Commission without legislative approval.

iii) The present reference to dune crests as markers of boundary is inconsistent with the definition of the boundary in terms of wave wash.

iv) The proposed definition would provide a means of locating the boundary where there is a cliff but no vegetation line, debris line, beach or dune.

The exceptions in (I-A) are not pertinent to the definition of the Conservation District boundary for the same reasons as apply in the case of the "shoreline".

The regulations of the Land Use Commission now allow local placements of the Conservation District Boundary seaward of its normal position. This provision is wise, as it allows for such non-conservation uses of the shorefront as those along the shores of harbors. Hence I suggest retention of the provision for local exceptions.

ACKNOWLEDGEMENTS

My attention was first drawn specifically to the issues addressed in this report by Norman Okamura, coordinator of the Coastal Zone Management Project of the Urban and Regional Planning Program of the University of Hawaii.

Samuel P. King, to whom I sent a draft of what is now part of this report, drew to my attention the fact that the opinions of Victor Houston, of which I was previously aware, had been published in a newspaper. I am indebted to George Chaplin, editor of the Honolulu Advertiser in which they were published, for permission to include copies of the articles as appendices to this report.

Most of the documents I have consulted in my investigation were available in the Hawaiian and Pacific Collection of the Library of the University of Hawaii at Manoa. I am indebted to Agnes Conrad for access to other documents on file in the State Archives, to Susan Goodbody for access to documents on file in the State Supreme Court Library, and to David Callies for guidance in finding pertinent standard legal works in the University of Hawaii Law School Library.

Charlotte Kato, the secretary of the University of Hawaii, Environmental Center, and her student assistants Lynn Kawamoto and Carol Uyemura, undertook the thankless chore of typing the numerous successive drafts of the various chapters of the report. During the many months in which much of my time was spent on the investigation, some of my regular duties in the Environmental Center were delayed or fell on others, and the entire staff of the Center deserves recognition for their forbearance.

Clinton R. Ashford and John P. Craven critically reviewed draft copies of the entire report. J. Frisbee Campbell, Dieter Mueller Dombois, E. Alison Kay, Abraham Piianaia, and Harold St. John critically reviewed portions of it. From these reviewers I received a large number of comments, some directing my attention to factual errors in the draft, some confirming statements of whose validity I was not certain, some agreeing and some disagreeing with the opinions I expressed and the conclusions I drew, and some adding interesting sidelights. I revised extensively some parts of the report on the basis of these comments. However, it should be recognized that the opinions expressed and conclusions drawn in the report are mine and do not necessarily reflect the views of any of these reviewers.

The final report was reviewed by Norman Okamura and Cynthia Bower of the staff of the Coastal Zone Management project of the Urban and Regional Planning Program, University of Hawaii and by Jacquelin Miller of the Environmental Center. Print-ready copy was proofread by Miller, Kato, and Uyemura and corrected by Kato and Uyemura.

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APPENDIX A

BASIC RIGHTS, NOT SELFISH INTERESTS, SHOULD GOVERN BEACH PRESERVATION

By
Victor S. K. Houston

(From Honolulu Advertiser, 20 September 1953, p. 12)

The tentative agreement of property owners at Kalama to voluntarily establish setback lines of their own is a practical recognition of the error of early court decisions in Hawaii in connection with sea beaches.

In an island community of limited size, where much of the activities are concentrated near the sea, it is necessary that there should be an interest in the public utilization of the beach areas.

Consequently, the early surveys of land parcels near the sea described the boundary lines to seaward in varying terms, depending upon the nature of the coast in respect to its utilization by canoes in their use for fishery enterprises.

IN THE VERNACULAR they were described as "ma ke kai"; "kai piha"; "ma ka lihi kai maloo"; "kai konohiki"; and "ma kahakai." Later, in the time of Kalakaua, the use of the term high water mark was introduced largely as the result of non-Hawaiian precedents, and largely without the Hawaiians realizing just what was being done to their patrimony.

As a result of the court decisions, sea walls came to be built at or near high water mark property lines, to the ultimate destruction of not only their own beach, but of the beaches fronting adjacent holdings.

The decisions set riparian boundaries at high water mark, not withstanding what must have been the common law at the time that recognized the right to haul canoes up onto the beaches, the only practical way of caring for them when not in the water.

THESE EARLY cases, as far as I have been able to find out, are Halstead vs. Gay, 7 Haw. p. 587 (March, 1889); and Terr. of Haw. vs. Kerr, 16 Haw. p. 303 (Jan. 1907). They are illustrations of the methods by which the Hawaiian's interests were subordinated to the convenience of the times and the demand for protection of the comparatively newly acquired right of private land titles.

The testimony referred to many non-Hawaiian citations, neglecting the dissimilarity of usage, or common law in the instances; did not offer any Hawaiian testimony as to the kanaka's rights under the common law; and undertook to interpret into English, the Hawaiian words used in the original deeds in a manner contrary to generally established usage.

In "Halstead vs. Gay" the land survey describes the boundary as running "Ma Kahakai." The opinion, then quotes from Andrews' Dictionary,[a] to serve its own purposes.

IN THE DICTIONARY, at page 242, "Kahakai" is defined in the following words: "The sea shore. 2 The sand of the sea beach. 3 The name of the region of country bordering on the sea."

This the court rendered as follows: "Kahakai is compounded of the words kaha and kai. Kaha means primarily a scratch, or mark. Kai means the sea or salt water. Kahakai then means the mark of the sea, the junction or edge of the sea and land. See Andrews' Hawaiian Dictionary."

None of the underlined language is used in the referred dictionary. The decision attempts to define as a "junction" or "edge," what is in the dictionary, very definitely set out as an "area" or "region."

The court then continued: "By extension of the term beyond its strictest etymological meaning, it means the sea shore." Yet that is the primary definition given in Andrews--not by extension, but by the exact words of the book.

WHEN IT COMES to descriptive words, the Hawaiian language is rich in distinctive terms: the Hawaiians were close observers of nature.

A casual inspection of Andrews shows the wealth of words relating to the shores and the tidal conditions: Kai-nui, high sea, high tide; Kai-pi-ha, full, a high tide; Kai-ki, high water, high tide; Kai-hua, the same; Kai-ho-honu, high tide, full sea, deep water; Kai-ulu, the name of the sea at full tide.

Similarly, there were words used to designate mid tide: Kai-mau and kai-moku; low water or low tide were spoken of as kai-make and kai-hoi; and low tide is also referred to as kai-maloo.

The decision in the Halstead vs. Gay case then says: "We hold that in the description of this survey (Kahakai) it means the HIGH WATER MARK ON THE SEA BEACH. 'A hiki i kahakai' is then to be translated 'reaching to high water mark' ", instead of TO THE SEA BEACH; into the beach instead of to the beach.

THE PUBLIC'S interest in the beaches was heightened by the well recognized use of the beach for hauling out the canoes in the exercise of the rights of fishery and navigation, which would be interfered with if canoes could not make such primary use of the normal shore facilities. In 7 Haw. p. 592[b] it is stated inter alia, with respect to some land at Kaakaukukui in connection with repossession of a tract of land, which bordered on the harbor, that: "The canoes of the chiefs as well as those we had were pulled up on the land." That illustrates the usage.

But this right was not expounded in any of the cases I have been able to find. Instead, in 14 Haw. p. 88[c] the government in opposing the removal of sand from some beach property held by Queen Liliuokalani made an argument upon usage of the beach for recreational purposes. In this case the court again used its discretion to distort the meaning of a well known Hawaiian word, "kuleana." The government lost the case.

THE DEEDS TO all early land grants contained or were understood to contain a reservation as follows: "Koe na kuleana o na kanaka," which in 14 Haw. the court decided meant "reserving however the people's kuleanas therein, and the kuleana means only the house lots, taro patches or gardens of the natives."

Actually, in Andrews kuleana is defined as "a part, portion or right in a thing...one's appropriate business. Note--in modern times kuleana often refers to a small land claim inside another's land, that is a reserved right in favor of some claimant."

"Stokes, Judd and Pukui" in their dictionary[d] define kuleana as "a right; ownership; interest" and do not even mention its use to describe a small land parcel.

"One's appropriate business" or "interest" is the common usage of the word. As a matter of fact, Andrews had not yet been published when the "reservation" was written or composed.

Some kuleana awards include not only house lots but iliainas and ahupaas.

Actually, however, all kuleanas that were claimed were covered by documentary awards so that reservations with respect to such kuleanas does not seem to have been necessary or at best to have been a duplication; whereas the common law practices and usages that were not covered by statutory enactment or a court decison might much more appropriately have been the intended meaning of the framers of the reservation.

THERE IS MUCH to be gained for the common good in the present attention centered upon the preservation of the beaches if basic rights rather than selfish interests are allowed to govern.

As to the master plan, in view of the already ruined beaches on the Diamond Head side of the Queen's Surf, I am inclined to omit therefrom everything from and including Queen's Surf to Poni Moi Rd.

Notes

Citations in these notes refer to works included in the list of references in the main report.

a) Andrews (1865)

b) Bishop v. Kala (1889)

c) Territory v. Liliuokalani (1902)

d) Judd, Pukui, and Stokes (1945)

APPENDIX B

ISLE BEACHES SHOULD BE PUBLIC ASSET, PROTECTED

By
Victor S. K. Houston

(From Honolulu Advertiser, 6 June 1954, p. A-7)

The shockingly drastic attacks upon Hawaii's beaches, as portrayed in The Advertiser's recent stories, showing areas of Kahuku's sands being scooped up by modern machinery, and the reef off the Ala Moana being blasted, all for the otherwise praiseworthy purpose of reclaiming the beaches on the south side of the island, focus attention upon the basic faults of Hawaii's land decisions as applied to the main scenic attraction of the Islands.

IN A PREVIOUS article (Advertiser of Sept. 20, 1953), I attempted to draw attention to certain questionable decisions in Hawaii's courts which I felt were partly responsible for the present situation.

Briefly, before the days of statutory law here, the beaches were the highways and byways of traffic, second only to the sea itself.

But the sea could only be used if there were access to it, available to the carriers then in use. The canoe was the only such carrier and for its utilization had to be hauled up on the sand above high water when not in use, so as not to be damaged by wave action.

THE HAWAIIAN custom, what might be called the common law, was that sand beaches were used in common by the people of the various communities.

If the canoes needed repairs, or were to be kept onshore for some time, they were placed in sheds or halaus, which were usually on private land allotments of the canoe owners.

It is important to note that the tides in Hawaii are, on an average only 18 inches. In the continental United States, and in Europe, tidal ranges vary from several feet to as much as 50 feet (Bay of Fundy); so that the foreshore between low and high water may cover vastly greater areas than in Hawaii.

Hence, it is hardly reasonable to compare the use of beaches in these islands with the practices in effect in America or England.

TIDES ON THE East Coast of the U.S. vary from 18 feet at Eastport, Me., to five feet at Charleston S. C.; and on the Pacific Coast from seven feet at Seattle to four feet at San Diego, Cal., and 12 feet at Balboa C. Z.

It is important to keep these figures in mind, for in setting land boundaries on shore, in the courts comparison was made with American and English practices and precedents, with innumerable citations quoted, whereas practically nothing was said with respect to these tidal differences, or about Hawaiian customs, nor was allusion made to the Hawaiian common law on the subject.

To begin with, there is no statutory law establishing high water as the seaward boundary of lands abutting on the shore in Hawaii.

The utilization of such boundaries arose from court decisions, in Hawaii's courts, in which the Hawaiian language, used in the original awards was, in effect, translated by the courts to mean "high water."

THE HAWAIIAN words descriptive of this boundary: "ma kahakai" and "a hiki i kahakai", according to Andrews' Dictionary[a] mean, "the sea shore," "the sand of the sea beach," and "the name of the region of country bordering on the sea." Hence it describes an area, which may be shifting, rather than a specific point or line.

To be sure, there were some aliis whose land grants went to low tide, but these were the exception. Nevertheless, it was one such which gave rise to an important further court decision in which the court undertook to interpret the "Reservation" in favor of the common man, that was written into all deeds or understood to be so included if not written in.

In 14 Haw. at page 85 in the case of the Territory vs. Liliuokalani and J. H. Wilson,[b] the syllabus, speaking of this Reservation, says: "the words...have no reference to such public rights, but can only be referred to the house lots and taro patches and gardens of tenants living on land within the boundaries of the larger tract of land granted."

THE HAWAIIAN language was "Koe na kuleana o na kanaka." An examination of the decision shows a lengthy, complex and laboured effort to substantiate such translation of the plain words.

Since writing my article published in The Advertiser of Sept. 20, 1953, my attention has been called to an original deed, signed by Kamehameha IV, on Jan. 20, 1855, written in the English language in which the Reservation is also written in English, and as generally understood by all Hawaiian, namely "Native tenants rights reserved."

This was on an original deed, R. P. No. 1598 to one Wm. Johnson for a parcel of land at Kuamoo and Kawainui, Kona, Hawaii.

I was further shown a deed to a kuleana, to one Kalauwaa, dated April 13, 1865, at Ahalanui, Puna, Hawaii, for 1.30 acres, wherein the reservation is included as well as a special reservation of a landing spot, presumably because the balance of the coast was rocky, R. P. 2982.

After these court decisions, influenced largely by citations of practices in jurisdictions not at all comparable to Hawaii's either by common usage or law or by the physical aspects, certain interests undertook to erect their fences down towards high water mark. Soon sea walls were built right at high water.

THE NEWCOMER did not want to share the natural resources with the original owners of the soil.

With the sea walls came erosion, and the next door neighbor put up a wall, and, before they knew it, the current had washed all the beach away from in front of the property.

It does not seem to be too late to take either administrative and or legislative action, in the light of the new evidence, looking to the eventual elimination of all sea walls on beach areas, excluding, of course, those in government-built harbors, and that setbacks be required, which shall be imprinted with the equivalent of the original reservation, so that such areas shall be recognized as available to the public.

As a pictorial exhibit of the original customs, may I offer a reproduction of a Japanese map, prepared by the group of shipwrecked seamen who were here in 1839-40, headed by Nakahama Manjuro.[c]

THE PICTURE WAS brought to my attention by Miss Ethel Damon because it contains an early reproduction of a Hawaiian flag, and she knew I was interested in that subject.

It is to be found in a manuscript volume under the title "Bandan," or "Stories About Foreign Countries," in the Carter library, loaned to the Bishop Museum by Mr. Carter, No. 29a, and its main interest to me, as soon as I saw it, was its showing of canoes hauled up on the beach wherever there was a sandy spot.

Notes

Citations in these notes refer to works included in the list of references in the main report.

a) Andrews (1865)

b) Territory v. Liliuokalani (1902)

c) The picture referred to by Houston was reproduced with the article, in the newspaper, but is not reproduced here. It showed "canoes hauled up on available sandy areas along shoreline" on Oahu.